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(U) AIR COMMAND AND STAFF COLL MAXWELL AFB AL  
J C RUTLEDGE APR 86 ACSC-86-2195

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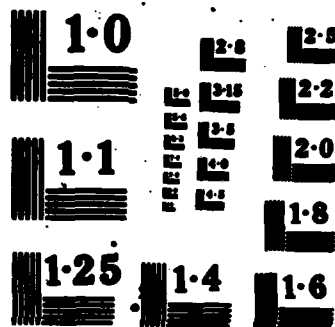
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# AIR COMMAND AND STAFF COLLEGE

## STUDENT REPORT

A HISTORY OF SERVICES CONTINGENCY  
CAPABILITY 1975-1985

MAJOR JOEL C. RUTLEDGE 86-2195

*"insights into tomorrow"*

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**REPORT NUMBER** 86-2195

**TITLE** A HISTORY OF SERVICES CONTINGENCY CAPABILITY  
1975-1985

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Submitted to the faculty in partial fulfillment of  
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## PREFACE

This report is intended to be a useful source of information on the Services readiness program. New Services personnel may find the background in this report useful in understanding and dealing with the contingency requirements of their new job. Experienced Services personnel may find this document useful in accomplishing staff work. The bibliography provides numerous references for further study. Finally, this report provides a chance to reflect on the progress made in Services contingency capabilities and may help the Services community decide the direction the program should take for the future.

This research report describes the development of Services' ability to respond to contingencies during the period 1975 to 1985. The Services functional area includes food service, billeting, mortuary affairs, and laundry. A contingency is any potential situation such as military operations, military or civilian emergencies, natural disasters, or major accidents that require Services support and thus advance planning, equipping, and training. In 1975, the components of the Services functional area were not centrally managed. By 1978, organizational changes brought the Services area under the staff organizations called Engineering and Services at Air Staff, major command, numbered air forces, and other units. Concurrent with this consolidation, Services staff personnel became aware of the need to develop contingency forces and equipment. This report provides the significant details of the development of Services' contingency capabilities.

Some Air Force Services personnel were particularly helpful by providing data for this report. The assistance of the following Services personnel is gratefully acknowledged: Col Roy C. Kennington, HQ AFESC/CV; Col John J. Maloney, HQ MAC/DEH; Col George T. Murphy, HQ SAC/DEH; Col Richard J. Tessier, Commander, HQ AFCOMS Pacific Region; Lt Col Ronald Stump, 3440 TCHTG/TTMXF; Maj William Hennessy, USCENTAF/LGXH; Maj Ron Sharp, NRDC/TAF; Capt Douglas E. Denton, HQ AFESC/DEO; CMSgt John J. Mowery, 3700th Services Squadron; MSgt James R. Halvorson, HQ AFESC/DEO; Mr. Raymond Bolduc, Mr. Glenn Daugherty, HQ AFESC/DEHR; Mr. Roger Merwin, and Mr. Leonard Nester, HQ AFESC/DEHM. Appreciation is given to Col James W. Rosa, HQ PACAF/DE-2, for suggesting the topic for this project; Lt Col Nate Pack, HQ AFESC/DEHR, for sponsoring the project; and Maj Mark Warner, ACSC/EDCC, for advising the work on this project.



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## ABOUT THE AUTHOR

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Major Joel C. Rutledge was commissioned as a Distinguished Graduate of the Air Force ROTC program in 1971. His first assignment was as Food Service Officer, McClellan AFB, California. Subsequent assignments have all been in the Services career field. Major Rutledge has been stationed at RAF Lakenheath, United Kingdom; RAF Mildenhall, United Kingdom; Andrews AFB, Maryland; US Army Natick Research and Development Center, Massachusetts; Kunsan AB, Republic of Korea; and Maxwell AFB, Alabama. In addition to base food service officer, his positions have included Chief, Base Services Division; Chief, HQ AFSC Services Division; Air Force Representative to the Joint Technical Staff, DOD Food Research, Development, and Testing Program; and Commander, 8th Services Squadron.

Major Rutledge received a Bachelor of Science degree in Business Administration in 1971 from the University of North Carolina, Chapel Hill. In 1982, he received a Master in Business Administration degree in Hotel, Restaurant, and Institutional Management from Michigan State University. While in the master's program at Michigan State, Major Rutledge won the Eppley Challenge Cup for academic achievement.

Major Rutledge graduated from Food Service Officer's School at Ft. Lee, Virginia in 1972. He completed Squadron Officer's School in residence at Maxwell AFB, Alabama in September 1975. Major Rutledge graduated from Billeting Management at Lowry AFB, Colorado in 1979. He completed Air Command and Staff College by correspondence in 1982. He is currently attending Air Command and Staff College at Maxwell AFB, Alabama. Upon graduation in June 1986, Major Rutledge will be assigned to the School of Engineering, Air Force Institute of Technology, Wright-Patterson AFB, Ohio, to develop a school for Services officers.

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## EXECUTIVE SUMMARY

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**REPORT NUMBER** 86-2195

**AUTHOR(S)** MAJOR JOEL C. RUTLEDGE, USAF

**TITLE** A HISTORY OF SERVICES CONTINGENCY CAPABILITY  
1975-1985

**I. Purpose:** To provide a useful history on the Services readiness program for Services personnel. New Services personnel may find the background in this report useful in understanding and dealing with the contingency requirements of their new job. Experienced Services personnel may find this document useful in accomplishing staff work. This report provides an opportunity to reflect on the progress made in Services contingency capabilities and may help the Services community decide the direction the program should take for the future.

**II. Discussion:** Services functions are usually required to support contingency operations. These functions are food service, billeting, mortuary affairs, and laundry. The contingencies supported may be military operations, civilian or military emergencies, natural disaster relief, and major accidents. The capability for Services to adequately support contingencies has been improved since 1975. The consolidation of Services functions under a single air force level organization enabled the Services staff to implement improvements. Development of subsistence and equipment further enhanced the Services' capability. The establishment of a Services response force, Prime Readiness in Base Services, has significantly improved the ability to provide these functions where and when

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needed. This report describes these developments and examines a mass casualty operation and exercises. The report concludes with a few findings and recommendations.

In 1975, Services functional responsibilities for the Air Force were assigned to HQ AFLC. The components were not consolidated under one organization; therefore, little coordinated effort was practical to plan Services support for contingencies. By 1976, the Services function was consolidated at air force, major command, and numbered air force under a new organization, Engineering and Services. In 1979, the major functions were physically centralized at HQ AFESC, Tyndall AFB, Florida. The final component of Services, mortuary affairs, moved to HQ AFESC in 1984. The integration of Services functions enabled Services staff personnel to identify the need for readiness in Services to support contingencies. The centralized, Air Force-level organization had the authority to implement the necessary programs that would coordinate major command, numbered air force, and base level efforts to improve readiness. The condition of Services readiness equipment and organization in 1975 serves as a good baseline to begin a history of these developments.

There was little readiness planning in 1975; however, the support was usually accomplished using existing equipment and experienced Services personnel. Each base and major command had its own plan to support contingencies. These plans usually overlooked the availability of equipment and the training required to make the Services support a success. Plans were not coordinated between the major commands; therefore, few plans were workable because of manpower, transportation, or equipment shortages. The quality of equipment and subsistence was adequate to satisfy most small scale contingencies; however, these items were basically the same as World War II equipment and subsistence. There were insufficient quantities of both equipment and subsistence to support a large contingency.

The awareness of Services requirements for contingencies began growing with the consolidation of the Services staff. By 1978, a Services contingency planning staff was beginning to form at HQ AFESC. A large amount of activity occurred in 1979 and 1980 to

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improve equipment, subsistence, establish a readiness force, develop training, and improve planning. A new operational ration, the Meal, Ready-to-Eat (MRE), was delivered to the Air Force in 1980. A new volume feeding ration, the T ration, was tested in field exercises in 1978 and 1981. Improvements to the Harvest Eagle kitchen were finalized and some of the new kitchens were delivered in 1984. Problems with the Harvest Bare kitchen were studied and HQ AFESC decided to phase this kitchen out of contingency use. New field equipment was developed to support various missions such as the Mobile Kitchen Trailer (MKT) and the Ground Launched Cruise Missile Field Food Service System. In 1978, HQ AFESC developed a Services readiness response force, Prime Readiness in Base Services (RIBS). Detailed comparison of the available manpower to support specific operations indicated a shortfall in Services military manpower. Actions were initiated to reduce the shortfall. The Air Force Reserves and Air National Guard have provided manpower to cover much of the shortfall. The Prime RIBS program developed to include formal and home station training requirements, UNITREP status reporting, and deployments to support actual and exercise contingencies.

Several Services responses to contingency operations are reviewed in this report. HQ USAFE was the DOD executive agent for the Beirut, Lebanon mass casualty operation following the terrorist bombing of the Marine Corps barracks in October 1983. This case demonstrated the immediate need for mass casualty procedures, skilled personnel, adequate facilities, and sufficient equipment. The 1985 CENTAF exercises, Bright Star 85, Shadow Hawk 85, and Inferno Creek, demonstrated the improved capabilities of Services contingency forces and the need for some specific improvements.

III. Conclusion. The report finds that Services contingency forces have improved during the period 1975 to 1985; however, improved training, more realistic exercises, more equipment, and improved mortuary affairs readiness are still needed in the Services contingency program.

## Chapter One

### INTRODUCTION

The combat support functional area called Services has recently developed a capable contingency response force. The responsibilities now assigned to Services were at one time organizationally and physically assigned to different agencies. These functions were consolidated, first at base level, then at major command, and finally at Air Force level. Awareness of Services support requirements in wartime, disaster, and emergency situations resulted in development of a Services readiness program and improved field equipment. This project will describe the history of the Services contingency organization and equipment, review two applications of this readiness program, and conclude with findings and recommendations.

The Services personnel resource is limited. Many Services members are either new to the Air Force or lack experience in Services. These people must learn the details of the many Services activities quickly and often under pressure. This history is intended to help them understand some of the issues surrounding the use of Services in contingencies and how the current organization and equipment evolved. In addition, Services personnel with some experience may find the history a useful summary for completing staff work. A glossary is provided after the bibliography to help those unfamiliar with Air Force and Services terms. A background of how the Services functional area was established is used to introduce the history.

### BACKGROUND

At base level, the responsibility for Services functions was within the combat support group or air base wing organization. The Base Commander was responsible for the services tasks through the Services Squadron or Services Division. This organizational structure has remained stable over the years.

From the formation of the Air Force until the early 1970's the responsibility for services type functions at Air Force level was assigned to the Directorate of Personnel, Headquarters Air Materiel Command (AMC) at Wright-Patterson AFB, Ohio (79:--). During the 1950's and 1960's the Services area included food service, commissary, and laundry and dry cleaning. Mortuary affairs and billeting were also AMC responsibilities; however, they were separated from the "Services" staff. The Services staff function relocated several times while remaining under the direction of the AMC Personnel Directorate. The various moves placed the staff at Mallory AFS, Memphis, Tennessee; then Marietta AFS, Columbia, Pennsylvania; then Olmsted AFB, Columbia, Pennsylvania under the Middletown Air Materiel Area. In 1966 the Services function moved to the Defense Personnel Support Center, Philadelphia, Pennsylvania, and gained responsibility for clothing and textiles. The organization was renamed the Air Force Services Office (AFSO) and it remained under the Personnel Directorate at AMC which had been renamed Air Force Logistics Command (AFLC) (21:10-12).

Responsibility for the Services function at major commands varied. Typically, the DCS/Logistics was responsible for Services since the Air Force staff was at AFLC. In 1972, HQ USAFE reorganized the Services staff into the DCS/Civil Engineering and titled the new organization DCS/Engineering and Services. This reorganization allowed the DCS/Logistics to emphasize its mission to support flying and the DCS/Engineering and Services to concentrate on improving base facilities and service for people. Based on the favorable results of the USAFE reorganization, HQ PACAF established a DCS/Engineering and Services in 1974. The realignment of all major command organizations was approved by the Air Force Chief of Staff in October 1974, and implementation was completed by 1976. Within the DCS/Engineering and Services, a Directorate of Housing and Services was established. Within this Directorate, the Services division became responsible for commissaries, clothing sales, food service, mortuary affairs, laundry and dry cleaning, linen exchange, liaison with the Army and Air Force Exchange Service, bachelor quarters, housing furnishings, and transient quarters (45:1-4). The Air Force wide responsibility for the Air Force Services Office remained with AFLC; however, mortuary affairs, housing, housing furnishings, bachelor quarters and transient quarters transferred to the Directorate of Engineering and Services, HQ USAF DCS/PRE.

In April 1977, the Air Force Engineering and Services Agency (AFESA) was established at Kelly AFB, Texas. This separate operating agency would reduce the Air Staff presence in the Washington, DC area and combine many Engineering and Services activities under a single manager. The Air Force Commissary Service (AFCOMS) had been established in 1976 as a separating operating agency to improve service through a vertical management

organization with strong central control and expertise. AFSCMS had already moved to Kelly AFB. The AFESA combined AFSCMS, AFSO, and mortuary affairs (63:1). Organizationally, the Services function was finally assigned to a single manager from the air staff level through to base level. More changes in organization and location were to occur before the Services staff would stabilize.

The Air Force Engineering and Services Center (AFESC) was established in June 1978 at Tyndall AFB, FL. to assist in reducing the military presence in Washington, D.C. and combine functions in one location. AFSCMS regained the status of a separate operating agency and remained located at Kelly AFB. AFSO was assigned to AFESC and would physically move to Tyndall AFB in 1979. Mortuary affairs was realigned to the Manpower and Personnel Center and subsequently moved to AFESC in 1984. The Air Force level Services staff was physically consolidated in one location with the opening of the new AFESC facility in September 1979 (13:2).

The consolidation of Services at HQ AFESC improved the Air Staff level Services members' ability to deal with major commands. Prior to this consolidation, the staff had little identity. In the case of AFSO, the organization raised its level from a major command element to an Air Force element. The coordination of Services facility requirements improved due to the close organizational and professional contact with Civil Engineering staff (85:--). The new Engineering and Services organization benefited Services personnel. They had a sense of belonging which resulted in more pride in their job. Senior Civil Engineers guided a young cadre of Services officers and developed them into senior leaders. New, higher grade positions became available. Educational and training opportunities developed. The Services career field became stronger by attracting and retaining better qualified personnel (79:--). In this period of progress for Services, the readiness program was initiated.

#### THE REPORT

During the period 1975 to 1978, Services managers had become increasingly aware of the problems in providing Services support in contingency operations. This awareness was enhanced by the new organization which allowed a Services manager to consolidate requirements and evaluate abilities. The new relationship with Engineers provided an opportunity to observe their readiness programs. The Services function was often overlooked in contingency situations; however, for contingencies involving

people over time, some Services support was required. Shortcomings were identified and corrective actions initiated. During the period 1976 to 1985, many improvements were made in the capabilities of Services organizations and equipment. This report will describe the key changes affecting the readiness of Services organizations to respond to contingency taskings.

This history will be limited to the direct Services contingency responsibilities (food service, billeting, field laundry, and mortuary affairs). A complete history of all Services related activities (such as AFCOMS and AAFES) is desirable; however, the functions covered are the core Services activities. Perhaps future reports could emphasize the important developments in related Services areas. In addition, the period covered will be limited to 1975 to 1985 since the integration of Services occurred during this period. The report presents capabilities, improvements, advantages, and disadvantages as they apply to the development of Services contingency programs. Specifics are included where useful or necessary to describe problems, issues, and solutions. The reader interested in more detail may refer to Air Force Regulations mentioned in the text and bibliography to find complete and current details.

The report is chronologically organized by subject area. Chapter Two will describe the capabilities existing in 1975 to establish a frame of reference. The next chapter, Chapter Three, will focus on the evolution of Services equipment over the period 1976 to 1985. Chapter Four will relate Services organizational development over the period 1976 to 1985. Following this, Chapter Five will examine a mass casualty operation and the 1985 CENTAF exercises to which Services responded. Finally, Chapter Six will summarize findings and provide recommendations for improvements to the Services readiness program.

The key to understanding the development of Services contingency capabilities is to understand the level of readiness that existed in 1975. Chapter Two will provide this information.

## Chapter Two

### SERVICES EQUIPMENT AND ORGANIZATION IN 1975

One of the first indications that a need for modern Services contingency support force was needed surfaced in 1975 at the the Vietnamese refugee camp at Eglin AFB, Florida (92:--). Senior Services personnel realized that large scale training, equipping, and manning was needed to accomplish the Services mission in contingencies. Changes in the Services business since the formation of the Air Force had reduced the ability to provide food, shelter, clothing, laundries, and mortuary affairs. Extensive contracting of base level Services functions had reduced the manpower available to train and deploy (88:--). The new food service training program at Lowry AFB, Colorado, did not include field feeding training (85:--). The consolidation of Services expertise and leadership had not occurred; therefore, little change was planned to make Services ready to respond to contingencies. All contingencies lasting more than a few hours required some food service support. As the food service function was provided, other Services functions became involved; but the essential requirement was always for food. Within food service, the resource which determined the level of support was the food itself. The packaging, cube, weight, and refrigeration requirements determined the transport mode and storage requirements. The type of food determined the preparation methods which determined the manpower and equipment required (80:-). Due to the importance of the food, this description will begin with the food available in 1975.

### SERVICES EQUIPMENT

The equipment available to Services personnel was relatively adequate when compared to the organizational problems. For food service, equipment designed in World War II and refined in the Korean and Vietnam conflicts was adequate. For laundry and mortuary affairs equipment, the Air Force depended on the Army's supply of dated but operable equipment. Billeting equipment was on hand in various warehouses to meet Air Force needs.

## Subsistence

The beginning point for food service planning of any type is the food itself. Subsistence must be developed for contingency operations. Peacetime food supplies may be used initially; however, peacetime ration shipments will be cancelled at the start of most contingencies to provide transportation of supply items directly related to combat. As a result, meals must be prepared from operational rations. These foods must be nutritional to maintain the health and effectiveness of personnel, acceptable so that they will be consumed, compact for shipment, and stable in wide temperature ranges and for long storage periods. Typical foods sold in commissary retail stores or used in food service in peacetime may not meet the operational need (73:7).

A Ration. The A ration was food used in US military dining halls under normal operations. Fresh, frozen, and canned foods in large institutional packages comprised the A ration. The fresh and frozen foods needed refrigeration to remain useful. Packaged foods had relatively long storage life, but the storage life was not sufficient to be practical for prepositioning at deployed locations. A rations were the most acceptable foods for serving. These rations were continually shipped throughout the world to keep fresh foods available to food service organizations at all times.

B Ration. The B ration was used to feed large numbers of personnel where cooks and preparation facilities were available. The B ration was an effective operational ration because of its stability, acceptability, compact packaging, and nutritional value (73:10). This ration did not require refrigeration and had a sufficiently long shelf life, usually three years, to preposition in warehouses in the CONUS and overseas areas for meeting operational requirements. Some of the components were canned meats, poultry, fish, vegetables, fruits, bakery mixes, dehydrated fruits, vegetables, juices, and soups, and staples such as flour, sugar, and spices (74:14). There were about 100 different items available. Some items were dehydrated, thereby increasing the water required to prepare a meal. One disadvantage of this ration was the lack of an Air Force menu using these foods. The majority of Air Force cooks did not know how to prepare B rations because they were not used in dining halls or exercises.

Meal, Combat, Individual. The Meal, Combat, Individual (MCI) was used for individual or small group feeding. This ration became available in 1961 and replaced similar canned individual meals called C rations. There were twelve different menus, each one providing approximately one-third of the daily nutritional requirement. The meal was composed of a canned

entree, one canned fruit or dessert, crackers, cocoa or candy, spread, and accessories. The packaging made the meal stable for long storage periods. Disadvantages of the MCI were the monotony of the twelve menus and the bulky round cans (73:12 and 14:16). The Air Force selected ten menus which did not have beans to package as the operational meal for flight feeding. This meal was called the IF-10.

As operational rations were not available, A rations were used for most exercises. Since food determines manpower and equipment, Services food service support was unrealistic during exercises. The lack of experience with realistic menus resulted in little change to field feeding equipment.

### WRM Equipment

The War Readiness Materiel (WRM) program provided for the procurement, storage, and use of equipment required to support contingencies and operation plans in the CONUS or overseas commands. Services contingency equipment and supplies were included in this program. Under this program were housekeeping sets and bare base systems. Housekeeping sets were normally used to expand the capacity of an existing base whose assets were insufficient to meet war mobilization plans. A bare base is a location with only a runway, taxiway, and aircraft parking areas for deployed forces and a source of water that could be made drinkable. Bare base systems were packages of deployable equipment and supplies to provide the minimum essential support facilities (29:18). The military objective was to deploy and fly missions within 72 hours of arrival (18:25). The bare base systems and housekeeping sets were functional and proven in actual contingencies and exercises. These systems were sufficient to accomplish food service, laundry, and billeting tasks at a various levels of customer satisfaction. Very little equipment was available for the mortuary affairs responsibilities.

Housekeeping Sets. Housekeeping sets were a combination of peacetime and field equipment items to support food service and billeting at an existing base. Table of Allowance (TA) 929 provided a complete list of items and quantities which could be prepositioned. The base level Services staff and logistic planners determined what would be required to support the base's contingency tasking. These items were standard peacetime equipment such as steamtables, refrigerators, cots, blankets, brooms, etc. Logistics planners had little expertise in Services, and they made most of the decisions (87:--). The Services staff had little training to support contingencies; therefore, the effectiveness of the housekeeping set was directly related to the experience level of the Services staff and their success in working with logistics planners. Plans were often

unrealistic. Planning factors were not standard. For example, one facility might be rated to feed 1000 persons per day while a similar facility might be rated to feed 1000 meals per day (85:--). With the WRM storage program, it was difficult to find out the composition of the set and its condition (87:--). Even if the housekeeping set was appropriately selected by an experienced Services staff, the next staff was likely to be inexperienced and undo the planning which had been accomplished.

Harvest Eagle. The Harvest Eagle system was an air transportable bare base support package. General purpose tents provided the various shelters for Services and other activities. The Services equipment was the same as used in World War II (85:--). The Harvest Eagle system was developed in the 1960's from the Grey Eagle kits of the 1950's (90:6-7). The components of a Harvest Eagle system were listed in Table of Allowance 156; therefore, it was really just a combination of equipment and supply items. Since the Services personnel being deployed had to select the items to be deployed, the inexperienced staff often built a less than optimum system. Some of the components were kitchen tents, M-2 gasoline burners, gasoline immersion heaters, field ranges, folding tables and chairs, food preparation and serving equipment, cots, blankets, tent heaters, cleaning supplies, and a field laundry. The burners were dangerous since they used gasoline under pressure. The immersion heater was dangerous as well since it used a gravity feed (drip) system to fuel its combustion chamber.

One Harvest Eagle set was designed to support 1100 people. Four kitchens were included in each set (16:13). A medium general purpose tent was used to billet approximately twelve people. One field laundry would support 550 people. Designated as War Readiness Materiel (WRM), the Harvest Eagle system could only be used with Air Staff approval. Approval was rarely granted to use this equipment; therefore, few Services people had actually seen and used this system. Most of the components were simple to use equipment and supplies; however, the lack of exposure to the unique items such as the kitchen tent, gasoline burners, and tent heaters prevented Services personnel from learning how to pitch, operate, and maintain the system. The tents had little ventilation and only makeshift electrical, plumbing, and drainage systems. A few Harvest Eagle systems were prepositioned in the Europe and Pacific theaters and stocked at Warner-Robbins AFB, Georgia. Harvest Eagle systems used in the Vietnam War were quickly upgraded to more permanent construction. The tents became "hootches" and the "hootches" became concrete structures. The permanent facilities were abandoned when US forces redeployed. The number of systems available were inadequate to support operational plans. The Harvest Bare system was developed in 1965 to provide a more suitable mobility system for the Tactical Air Command.

Harvest Bare. The Harvest Bare system was developed to solve some of the problems with the Harvest Eagle system. The Harvest Bare system was an air transportable bare base support package. Each package supported up to 4500 people (16:12). The shelter system was a hard wall, modular structure. The shelters integrated power panels, windows, lighting systems, and ventilation fans into their structure. The shelter walls were constructed as a sandwich with thin aluminum sheets over a foam or paper honeycomb core. The shelters were easier to erect than Harvest Eagle tents. The shelters formed their own shipping containers and were compatible with the standard 463L cargo handling system (18:26,102). There was no need to construct permanent shelters since the Harvest Bare shelters were hard walls with heating and air conditioning. Electrical, water, fuel and drainage systems were improved over the Eagle (90:7-8). Electrical power was supplied by multifuel turbine generators (18:105).

The Harvest Bare kitchen used modern equipment such as found in permanent dining facilities. The kitchen was designed to prepare A rations including bread. The griddle was teflon coated. The kitchen equipment was designed to meet the same sanitation standards as permanent dining facilities (83:--). Some of the kitchen components were a steam generator/pressure cooker, steam serving lines, dishwasher, hot plate, ice cream machine, coffee maker, and steam jacketed kettle. The oven, griddle, and steam generator were liquid fueled which reduced the electrical power requirements for the kitchen. The billeting shelters were new expandable structures accommodating twelve per shelter. The latrine included incinerator toilets to reduce human waste and avoid contaminating the environment. A field laundry was also provided (18:105).

The Harvest Bare system was a complete system, stored in a package; therefore, deployment of the Harvest Bare system usually resulted in a better equipment package than the Harvest Eagle. The kitchen equipment was more sophisticated than the housekeeping set or Harvest Eagle. As a result, food preparation was similar to that in a peacetime kitchen. The kitchen could support 250 people per hour. Nine kitchens were included in each package (92:12). At this time, there was no training for the Harvest Bare system. All of the Harvest Bare systems were stored at Holloman AFB, New Mexico. As with the Eagle, Air Staff approval was required to use the Harvest Bare. This approval was rarely granted; therefore, few Services people were able to learn how to use the Harvest Bare system (25:28-29).

Mortuary Affairs. Little equipment was provided for the mortuary affairs functions in Services planning. Additional refrigerated space for storage of remains was sometimes considered for housekeeping or bare base sets. Overall, little

attention was given mortuary supplies (34:--).

The equipment available to Services to support contingencies had been used in many exercises and operations; therefore, it was somewhat proven. The organization of Services forces to deploy was not well planned and not tested under realistic conditions.

### SERVICES ORGANIZATION

#### Air Force Logistics Command

There was little coordination of Air Force Services contingency responsibilities. AFLC was responsible for administration of all Air Force Services activities. Major commands and bases were busy trying to accomplish their peacetime mission with the few resources they had available. Aggressive programming for Services support was needed. HQ USAF Services personnel had not worked readiness programs. Their primary involvement was food service. There was little tasking for billeting or laundry functions. The work was handled on a case by case basis (92:--).

The AFLC Services staff agencies provided guidance concerning Services support during contingencies. While adequate operational rations had been developed, the lack of rations on hand precluded using them for training. There was no effort to determine the amounts of subsistence required to support specific locations in the operation plans. AFSO became aware of the need to preposition food for contingencies and started identifying quantities and locations. Air Force plans relied on the Army to provide the mortuary affairs and laundry functions. Billeting was not even considered. AFSO found that the Army had not planned for supporting the Air Force. Likewise, their review of the Army plans to move subsistence found the Air Force was not included (85:--).

The major commands planned Services support independently. There was little coordination between commands. For example, both TAC and SAC had elaborate plans to support deployments. Both depended heavily on MAC to move their people and equipment. Unfortunately, MAC's plans did not include TAC and SAC's Services deployments. A study of TAC's plans showed that there was insufficient manpower to deploy. In addition, there might not be Services facilities to use at deployed locations. There was little consensus on what type of contingencies would be supported, how long the contingency would last, and how to best support the deployed forces with available assets (85:--).

When tasked to support an operation, the base or MAJCOM Services staff would respond in the best manner they could devise. This would require some time to research regulations, operating manuals, personnel capabilities, and equipment that would be available to support the Services portion of the exercise. The level of support depended on the philosophy of the individual planning the deployment.

Without clear and strong guidance on the menus, equipment, and supplies to be used, base level and major command staffs were unable to make effective plans. Commanders assumed Services would deploy and provide what they wanted (85:--). Basic decisions on what type of meals to serve, hot or cold, or whether mess kits or disposable paper supplies would be used were too late to make effective plans. The base level and major command staffs were generally undermanned and unable to produce a comprehensive readiness program. Since there was little continuity at base level and major commands, and little Air Force level guidance, plans were changed frequently and often reflected unrealistic goals. Many of the personnel and equipment items scheduled to support the plan simply did not exist (85:--). The lack of central direction and control resulted in widely varying levels of support throughout the commands.

There was little training available for Services contingency operations. The basic cooks and food service officer training courses were moved from the Army Quartermaster School at Ft. Lee, Virginia, to Lowry AFB, Colorado. The Army trainers taught basic field food service; however, the field feeding portion of the course was considered unnecessary and this portion to the Army's course was used to justify the move of Air Force food service training to Lowry AFB, Colorado (85:--). There was no training available for billeting and mortuary affairs contingency operations. As a result, most Services personnel learned from experience. Commanders usually demanded a higher level of Services standards in exercises than would be provided during an actual contingency. The philosophy was to make the deployed troops as comfortable as possible so their morale would be high. A typical morale builder was fresh steak in the dining tent (87:--). Good troop morale would help insure the exercise would be a success. Unfortunately, such an exercise provided little training for Services personnel.

#### Unit Type Codes

Unit Type Codes (UTC's) were the basic planning device that indicated what combat support forces would be deployed. A logistic planner would schedule a combat support UTC against an operation plan requirement for support of flying and maintenance UTC's. There were a variety of combat support UTC's, but none were developed to match Services manpower to the factors that

determine Services manpower requirements (facilities, menu, or population).

Little planning had been done for other Services activities. Services staffs were generally unaware of the need to plan for mass casualty contingencies. The Army Air Force Exchange Service and commissary organizations had done little realistic planning. The manpower potential of the Air National Guard and Air Force Reserve had not been identified.

#### SUMMARY

In 1975, the ability for Services to provide contingency support was questionable. Operational subsistence items were developed, but supplies of operational rations were not on hand. Available equipment was proven in past wars; however, it was aging. Changes were not made to reflect the operational rations that would have to be served in an actual contingency, and Services personnel who knew how to use the equipment were retiring. No field training existed for Services personnel. Current mobility plans did not match Services manpower with requirements at the deployed location. Fortunately, senior Engineering and Services leadership would soon recognize the need for improved services contingency capabilities.

## Chapter Three

### SERVICES EQUIPMENT 1976 TO 1985

The period 1976 to 1985 was full of growth in Services contingency capabilities. The alignment of Services staffs under the Engineering and Services organization resulted in improved leadership and continuity for training, equipping, planning, and organizing. The increased awareness of Services contingency needs was consolidated at HQ AFESC. The Services staff began analyzing the subsistence requirements and seeking solutions to the problems. A key player in the development of improved subsistence and equipment was the US Army Natick Laboratories (Natick Labs). In July 1970, the Department of Defense had established the DOD Food Research, Development, Testing, and Engineering Program at Natick Labs (23:31). Even though Natick developed rations prior to 1970, the new program incorporated operations analysis and equipment development with ration development in a joint service program. Natick responded to user requests. Since the Air Force had been unsure of contingency subsistence and equipment, Natick had not really solved specific Air Force problems.

In this chapter, specific programs to improve subsistence and equipment from 1976 to 1985 will be described. New subsistence items such as the Meal, Ready-to-Eat and tray pack were developed. New ways of using old and new operational rations were developed. The Harvest Eagle was improved and new equipment such as the Ground Launched Cruise Missile Field Feeding System (GLCM FFSS) was developed. The review of long term supportability of the Harvest Bare kitchen indicated that a phase out of this system was needed. Field laundries were improved. Services planners began considering and experimenting with prepositioning mortuary equipment and supplies. As food is the first step in the Services business, the history will start with improvements in subsistence.

## SUBSISTENCE

The A and B rations have changed little since 1976; however, several new operational rations have been developed to improve food service capabilities. The A and B rations changed to reflect small changes in food availability, consumer tastes, and cost. Some field feeding tests were conducted using B rations packaged on pallets containing the subsistence types and quantities required for a complete menu to feed 100 people per day. A new individual operational ration, the Meal, Ready-to-Eat, replaced the MCI. A new mass feeding operational ration, the T ration, changed the design of some field feeding systems to take advantage of labor saving qualities.

### Palletized B Ration

The combination of B ration items into a module had potential for accelerating shipping to theaters with fewer errors in what items were supplied. The theory was to package on one pallet all of the entrees, starches, vegetables, fruits, staples, and if possible, disposable servingware necessary to feed a standard menu to a specific number of people. If the number of people to be supported and the time they require meals were known, logistic planners and food service personnel could quickly determine the number of modules to requisition for contingencies. The modular concept would provide a balanced menu, one less likely to become monotonous or nutritionally deficient. All of the foods required would be included in the module so that cooks would not have to improvise because of stock shortages. The modular concept would smooth out the erratic shipments caused by shipping individual items as vendors made deliveries. Some of the problems designing the module were the difficulty in packaging the modules with the widely varying sizes, shapes, and types of containers. Also, storage of the foods was complicated since the usable life of some items was less than others (74:11). The Army was the proponent of the B ration palletized menu tests. The Air Force used the concept with good results, which will be commented on in Chapter Five.

### Meal, Ready-to-Eat

The Meal, Ready-to-Eat (MRE) was an individually packaged menu which replaced the Meal, Combat, Individual (MCI). This meal was first delivered to the Air Force in 1980 (77:--). There were twelve menus. The packaging for this meal was flexible pouches. The entrees, vegetables, and some fruits were sealed in

four-ply pouches which could be heated for sterilization (retorted) just as the tin can. Other foods such as crackers and cookies were sealed in flexible pouches. The foods and accessories necessary for one meal were packaged in a polyethylene pouch (74:20-22). The retort pouch had many advantages over the tin can used in previous operational rations. The flat package allowed faster processing at high temperatures minimizing the damaging effects of high temperature on foods. The packaging required less volume and weight making it easier and cheaper to transport. The life of the product was much greater than with tin cans. This longer life reduced the rotation costs associated with stored operational rations to keep the stocks fresh. The soft, flat packaging made meal components easy to carry in uniform packets and did not injure a person when crawling or falling. The pouch was not puncture proof but did not burst under the weight of a person. It was easy to open by hand, and a can opener was not required. The MRE did have some disadvantages. The MRE contained a greater variety of foods than the MCI; however, these improved menus could become monotonous if used over seven days (74:21). The flexible pouch would not stand upright making it difficult to eat two items at the same time. Some of the components of the MRE were dehydrated and required more water to prepare than its predecessors. Additionally, the dehydrated fruit had not attained the desired shelf life; therefore, future purchases will replace dehydrated fruit with "wet pack" fruit pouches (47:--). The beans in three of the menus caused gas and cannot be used for flight feeding. The dehydrated items were not easy to use while inflight. In 1986, the Air Force began procuring the MRE in a different menu combination removing the dehydrated entrees and beans. The new ration is called the Meal, Flight Feeding (MFF) and will replace the MRE (48:--).

#### T Ration

The T ration was characterized by a new type of can, the tray pack. The T ration had entrees, vegetables, fruits, and desserts in tray packs and supplemented these foods with beverages, crackers, and spreads from the B ration (74:55). The tray pack was a flat can that enabled food processors to package fully prepared food items that needed only to be heated, opened, and served. The flat can was the size of a standard half steam table insert used in commercial and military feeding. These cans had the same volume as the common cylindrical number ten can. The tray can allowed entrees such as stuffed cabbage, lasagne, sliced meats, or cakes to be processed that could never be packaged with the cylindrical number ten can. The tray pack preserved a stable product for up to three years. The flat shape of the tray pack as compared to a cylindrical shape reduced processing and reheating time. The less time at an elevated temperature resulted in a higher quality product (extended

storage life and better taste). Tray pack foods could be reheated in the can using an oven or immersed in boiling water. Food service manpower requirements were minimized because the entree was fully prepared. Since the many different ingredients to prepare these entrees were already in the can, the logistical system had fewer line items to manage (74:56). The T ration had a few disadvantages. The cost of some tray pack foods was significantly higher than the standard B ration item. The industrial base to manufacture the tray can was limited. Breakfast items were more difficult to package in cans including the tray pack; therefore, equipment and cooks to prepare breakfast meals were desired.

The improvements in subsistence made good items even better. The T ration provided an opportunity to reduce the manpower and transportation requirements in field operations. Planners began to identify their contingency tasks and developed equipment to integrate the available food, manpower, and facilities.

#### EQUIPMENT

The Services equipment systems progressed from relative disarray in 1976 to an aggressive program to procure effective systems by 1985. When tasked to provide Services support at contingencies, the Services staff researched records to find what equipment was available. Harvest Bare assets were stored at Holloman AFB, New Mexico, but the Air Staff would not allow its use in most exercises. Later, twelve Harvest Bare kitchens were moved to the CENTAF area of responsibility, further complicating support and training problems (46:--). Twelve Harvest Eagles were stored at three locations, with four at each location; Warner-Robbins AFB, Georgia, the PACAF theater, and USAFE theater. Storage and maintenance was by non-Services personnel; therefore, Services staffs had trouble identifying what was available and operating. Housekeeping sets were stored at bases but managed by inexperienced people. Some food service equipment was frequently used by RED HORSE and tactical control units. These sets were not available to Services. In summary, no Services organization managed, maintained, determined requirements, or tried to make improvements to these systems (88:--). Soon after the consolidation of Services into a single functional organization, Services staffs began developing requirements. They acquired some authority affecting the development, procurement, storing, deployment, and use of these assets. The increased capability was dramatic.

## New Field Food Service System

The Harvest Eagle system was the basic field feeding system that required improvement. Natick Labs had developed new field feeding concepts for the Army and tests indicated the new system would save manpower and costs. This was the beginning of the field kitchen using the T ration (17:15). AFSO recognized the need for a new system and created Military Service Requirement USAF 9-1, The Design of an Air Force Mobility and Augmentation Field Food Service System. The project started in October 1977 to explore problems with the existing field feeding systems, and to define and develop a better system (68:iii). The desired system would provide food service similar to that at main operating bases during contingency operations. Desirable characteristics were reduced size to facilitate shipment and reduced manpower requirements (68:1).

The first step of the project was an evaluation of the existing field feeding systems at four contingency exercises; Team Spirit 78 at Sachon AB, Republic of Korea; Brave Shield 17 at Nellis AFB, Nevada; Brave Shield 18 at Peterson AFB, Colorado; and Dawn Patrol at Gioia Del Colle, Italy (68:58). The data collected showed the Harvest Eagle was inadequate. There was no standard layout used for the food service complex. Some layouts were inefficient for customer flow and food preparation. Since no standard existed, cooks had to reorient themselves to the new configuration at each exercise. There was no sanitation shelter; therefore, makeshift shelters and procedures were devised. Some deployments used disposable servingware that was flimsy or required trays which had to be washed. Shelter pitching was time consuming and few Services people knew how to erect a kitchen tent. The kitchen was small and, in many locations, too hot to use the M-2 burners. Storage space was insufficient. Additional equipment was needed to prepare better menus. Customers found the dining tent crowded and the serving line was too slow. Dining in the tent facility was considered monotonous. Cooks were somewhat concerned about the safety of the M-2 burners and complained about fumes from the burners (20-79). The quality of the food was rated relatively high. Other positive ratings by customers concerned the opportunity for dining with their friends and being served by dining facility personnel (68:60).

In February 1979, Natick Labs proposed three concepts and obtained approval to pursue tests on the preferred concept. The alternatives were a modified Harvest Bare, an all electric kitchen, or a modified Harvest Eagle, called the New Harvest Eagle. The modified Harvest Eagle option was selected and a prototype field system was delivered to Eglin AFB, FL for testing in June 1980 (68:1). A full scale test of the proposed system was conducted at Team Spirit 81 at Kim Hae AB, Republic of Korea (69:11). The proposed system included many solutions to the

problems found in earlier exercises.

### New Harvest Eagle

The New Harvest Eagle (NHE) food service system incorporated new shelters, additional and improved equipment, and better sanitation facilities. The new field feeding system served up to 1100 people at a bare base. The Tent, Extendable, Modular, PERSONnel (TEMPER) was used. This shelter system was designed to pitch and strike easily, provided increased ventilation, and offered more optional features than the previous general purpose tents. Vestibules were used to connect storage, preparation, serving, and dining areas. The layout of the storage, sanitation, and preparation areas provided logical flow of food through the tents. Customer flow through serving and dining areas was improved by using two serving lines. Customers could wait in vestibules while in the serving line, thus avoiding cold or wet weather. A liner was used in the kitchen tent which was cleaned regularly for sanitation and to reduce risk of fire. Additional equipment was designed to improve the burners used in the Harvest Eagle. The new ovens were larger and more efficient. Serving lines and sinks were designed so burners could be used to keep food or water hot. Handwashing sinks were provided. Stands and shrouds were used to maximize burner efficiency for pots. The M-2A burners were connected to a central, pressured fuel system, making removal of burners from the kitchen for refueling unnecessary. Standard food service equipment such as tilt griddles, deepfat fryers, and hot food holding cabinets were included. A central water distribution and drainage system was included. This included a hot water heater that eliminated the unsafe immersion heaters. Hot and cold water was available from faucets on sinks located in the sanitation and preparation areas (68:21-23). Since refrigeration was included, the New Harvest Eagle system was used to prepare A, B, or T rations. This flexibility allowed changes to menus because of manpower shortages or lack of fresh foods (68:30). Finally, the New Harvest Eagle was developed as a system for Air Force use. The developers considered Air Force management, menus, equipment, utilities, storage, sanitation, distribution, mobility, maintenance, and accounting systems to design the New Harvest Eagle. The result was an integrated system.

The New Harvest Eagle kitchen was deployed for a full scale test at Kim Hae AB, Republic of Korea, during Team Spirit 81. Enroute to Korea the system was assembled and tested at Eglin AFB, Florida, for final review. Minor refinements were made prior to shipment to Korea. Some of these refinements included making a one piece floor covering to replace a sectioned floor cover, aluminum-bump through doors for the vestibules, quick disconnect fittings for the water distribution system, safety valves for the burners, and provisions to light the burners in

the kitchen (69:18-23). The New Harvest Eagle met the Air Force requirements for a field feeding system. Manpower requirements were reduced while food service was improved. The savings were generated by the use of the T ration, the central fuel supply, improved equipment, and a better layout. According to the Natick Labs data, the New Harvest Eagle increased productivity by 50% at the volume fed at Team Spirit 81 (69:27). The manpower savings at full operating capacity could not be determined since the attendance during Team Spirit 81 was too small to accurately extrapolate this data (69:28). Customers liked the new field feeding system and cited speed of the serving line, dining facility atmosphere, and food with high ratings (69:32). There were no areas rated less suitable than the old Harvest Eagle. Cooks also rated the new system favorably, giving lighting, condition of equipment, speed of service, ease of serving, kitchen size, and ease of access to supplies the most favorable comments. Some of the cooks' concerns were safety of the vinyl flooring in the kitchen and the burner system (69:36-39). The Prime Base Emergency Engineering Force (BEEF) team found the TEMPER system easy and fast to pitch. (69:43). Recommended improvements included a stronger, more water repellent tent material; an enlarged serving line from three wells to four wells; a larger capacity deep fat fryer; an improved safety valve on the burner fuel system; and a design for operation in very cold climates (69:95-97). As a result of the success of the New Harvest Eagle at Team Spirit 81, HQ AFESC issued a statement of need to Natick Labs in June 1981 to begin full scale development of the system (30:--).

The engineering details of the New Harvest Eagle were completed over the next two years. In the course of finalizing the design of the system some modifications were made to improve the safety and flexibility of the system. The central fuel system was removed because of the technical problems encountered trying to make a pressurized central gasoline system safe. The deep fat fryer was removed for safety considerations and the realization that the tilt griddles could be used for all frying requirements. The layout of the kitchen was modified to improve flow. Minor adjustments in kitchen equipment were made to better tailor the equipment to the new Air Force field feeding menu. More seating was incorporated to ensure the maximum capacity of the kitchen could be used. In 1984, HQ AFESC designed a smaller version of the New Harvest Eagle to feed 550 people at locations that did not need the 1100 person version (53:--). In 1983, the New Harvest Eagle kitchen system was procured at approximately \$344,000 each and delivered to the Marine Corps Logistics Center in Albany, Georgia. Thirty-two kitchens were purchased for CENTAF and one kitchen for training at Eglin AFB, Florida (9:30). Upgrading the twelve old Harvest Eagle kitchens was programmed for fiscal year 1987 (52:--).

## Harvest Bare

The 4449th MOBSS stored, maintained, and deployed the Harvest Bare system. They also conducted training on the operation and maintenance of the system. The Harvest Bare kitchen was the best field feeding system available; however, maintenance problems resulted in the phasing-out of this system. The Harvest Bare system was tested and accepted in 1965. From 1970 to 1980 the Harvest Bare system was exercised ten times. Most of the after action reports concluded that the system performed satisfactorily and recommended minor modifications (25:29). In 1978, during the Natick Labs evaluation of field feeding concepts that resulted in the development of the New Harvest Eagle, the Harvest Bare system was evaluated at Brave Shield 18 at Peterson AFB, Colorado. Findings during Brave Shield 18 indicated that better periodic maintenance was needed. The two kitchens deployed required 80 hours of specialized maintenance by the 4449th. Most of the corrective maintenance was performed on the steam generator, oven, ice machine, air compressor, griddle, and dishwasher (68:85). The majority of the maintenance was performed in the first days of operation; thus, once the equipment had been serviced, it tended to be reliable (68:84). The frequent loss of steam was an irritant to the cooks. The customer rated the Harvest Bare system as a fine dining facility. The dining area was clean and pleasant. The aluminum skin of the Harvest Bare shelter was easier to clean than tents. The air conditioning system kept the dining area comfortable even when the outside temperatures were high (68:72). There were some complaints of noise caused by the dishwashers inside the shelter. There was some congestion caused by the cross flow of traffic for the serving line and tray turn-in point (68:88). The quality of the food was rated low, but this was assumed to be a management problem (68:60). The maintenance problems during this exercise caused the Air Force to establish a continuing engineering support project for the Harvest Bare system at Natick Labs. This project called on the developer, Natick Labs, to assist the 4449th in solving technical problems and developing modifications to improve the reliability and maintainability of the kitchen (75:--).

The Harvest Bare system was used as the temporary dining facility at Bergstrom AFB, Texas, while the regular dining facility was under renovation. The 4449 MOBSS deployed with the system but could not remain for the entire six months of its operation. The system did not perform well in the role of a substitute dining hall. Base maintenance personnel had difficulty in repairing many of the unique features of the Harvest Bare system. Some of the equipment that was standard food service equipment in the 60's was no longer manufactured and replacement parts were hard to obtain. The steam generators were frequently inoperative. The serving line could not handle more

than its rated capacity. The lesson learned from this experience was that the Harvest Bare was not suited for continuous, peacetime food service operations (6:14-15).

The maintenance problems encountered with the Harvest Bare caused Services staffs to review the capability of the Harvest Bare system to support deployments. Comparing the success, smaller package, and lower cost of the New Harvest Eagle caused considerable concern over the desirability of the Harvest Bare. The New Harvest Eagle kitchen would cost about \$344,000 and feed 1100 while the Harvest Bare would cost about \$563,000 and feed 550 (55:--). In 1984, when faced with the possibility that CENTAF wanted to procure more of the Harvest Bare systems, HQ AFESC reviewed the options to continue with the Harvest Bare. Three options were considered; the standard Harvest Bare, the New Harvest Eagle, or an all electric Harvest Bare. The all electric Harvest Bare kitchen was eliminated due to the impracticability of providing enough electrical power without disruption at a bare base. The remaining options were deployed during Gallant Eagle 84 at Biggs AFF for a "cook-off." The Harvest Bare required over 100 hours of specialized maintenance (55:--). The Harvest Bare kitchen was designed for a ten year serviceable life. These kitchens were five years beyond that design parameter. The New Harvest Eagle required only routine maintenance. The Harvest Bare had been modified so many times that it no longer had a standard configuration. The Harvest Bare system was not supportable in the long-term (46:--). Comparing the cost and capacity of the two systems indicated the Harvest Eagle could feed twice as many people at approximately 60% of the cost. A working group of representatives from HQ TAC, HQ AFESC, HQ USAF, HQ USCENTAF, and the Warner-Robbins ALC recommended that the New Harvest Eagle replace the Harvest Bare in the next three or four years and the existing Harvest Bare assets would be maintained and not upgraded during the phase out (46:--).

#### Mobile Kitchen Trailer

Responding to the need for small field feeding capability at existing bases, HQ AFESC centrally procured the Mobile Kitchen Trailer (MKT). Natick Labs began design of this unit in 1972 for mobile Army units. The Army first purchased the MKT in 1975. The system was self-contained on the one and one-half ton trailer and could be towed by any vehicle capable of pulling the trailer. The trailer extended outward from four sides and upward much like a pop-up camping trailer. Serving was from one or both sides of the trailer. The top could be left open on the sides, screened, or blacked out by canvas. Four people could set up or take down the trailer in 20 minutes. The preparation equipment was the standard M-2A burner and field ranges. Standard field griddles and pots were also used with the trailer. All preparation equipment was stored on the trailer while it was folded for

movement (72:3-8). The MKT could serve up to 250 personnel per meal and cost about \$17,000 (16:13). The simplicity and size of the system made the MKT useful in many contingencies. The trailer could be used for home station training and for feeding meals away from the dining hall during exercises. The unit was best used to prepare B or T rations but can easily be used for A rations where refrigeration was available. The facility had no dining area; therefore, customers ate outside the trailer. In 1982 HQ AFESC centrally procured 176 units, 32 for WRM and 144 for distribution to major Air Force bases (51:--).

#### Ground Launched Cruise Missile Field Feeding System

In 1979, HQ AFESC tasked Natick Labs to develop a unique food service system for the Ground Launched Cruise Missile (GLCM) system. The GLCM Flight personnel required food service support during exercise and actual field deployments. GLCM Flight personnel were geographically separated from their main operating base and other support facilities from one day to several weeks. This dispersed and mobile weapon system concept imposed significant constraints on the food system. No trained food service personnel would be deployed. Diesel fuel was the only fuel used in the deployment. All emissions from the system were to be minimized to reduce the potential for enemy detection. The subsistence heating system had to have a low, non-unique infrared signature. Noise, smoke, and heat had to be minimized. The system had to be capable of withstanding a chemical or biological assault, be readily decontaminated, and returned to operation outside the contaminated site. The menu had to provide a nutritious diet, acceptable to Flight personnel (71:--). Natick's response to these demands was the GLCM Field Food Service System (FFSS).

The GLCM FFSS was a pallet-mounted heating and service unit that used the T ration. Since the tray pack entrees, vegetables starches, and desserts were fully prepared, no food service personnel had to deploy. The tray pack significantly reduced the number of line items and bulk required, significantly reducing the logistical support requirements for GLCM food service. The system was designed to feed 50 to 100 people. The equipment to heat tray packs was designed to mount on the standard M925 five ton cargo truck. The equipment was mounted on two pallets with a third pallet for an electrical generator. A diesel fueled boiler provided hot water to heat tray packs and kept food hot on the serving line. Included on the pallets was storage for tray packs, disposable serviceware, and MRE's; an insulated serving line; and a hot water heater and dispenser for preparing beverages. A three kilowatt diesel fueled electrical generator provided power for lighting, heating water for beverages, and operating boiler controls. The system could heat meals while on the move. Two people could set up the unit in about 45 minutes,

heat tray packs in 50 to 70 minutes, clean-up in 30 minutes, and breakdown for relocation in 30 minutes. Operators needed no food service skills. Meals were self-service. A fabric and biological agent resistant cover was designed to protect the cargo area from gross liquid contamination (70:17-25).

The GLCM FFSS was used during the January 1983 test and evaluation of the GLCM weapons system at Ft. Lewis, Washington. The FFSS successfully completed this test and in April 1983 was accepted for use with the GLCM Flight. Final specifications of the FFSS were completed in 1984. One major modification of the system was the addition of a shower system using the generator and water heater when the food system was not in use. The three prototype units were initially sent to the Comiso, Italy; RAF Greenham Common, England; and Florennes AB, Belgium, GLCM bases. HQ USAFE budgeted to procure 29 FFSS units at a projected cost of \$30,000 each during fiscal years 1987 to 1991 (36:--).

#### Field Laundry

The field laundry was difficult to operate and maintain. The unit was the same as the Army unit used since World War II. HQ AFESC tasked Natick Labs to modify the existing laundry. The trailer mounted units were redesigned to be pallet mounted and compatible with the standard Air Force 463L aircraft pallet system. The layout of laundry was improved to flow the laundry from one end of the unit to the other. New dryer units were designed to be safer and simpler to operate (16:13). An extractor was added to reduce the wear on the washer and speed drying (92:--). The existing washer units were reused. The upgrade cost about \$45,000 per unit. The reconfiguration of these units began in 1984 with the first phase completed in August 1985 for inclusion in the CENTAF prepositioned Harvest Eagle assets. The second phase of reconfiguration began in November 1985 with an estimated completion date of July 1986 for all the laundries (34:--). While the existing laundries were being reconfigured, most deployments use commercially available washers and dryers for contingencies and exercises. These machines were easy to procure and spare parts were readily available. However, commercial machines were more difficult to maintain and did not provide the large capacity desired.

#### Mortuary Kits

During this time period, mortuary kits were added to the Harvest Bare and Harvest Eagle systems. Storage refrigerators, human remains shipping pouches, and preparation tents were included. Deploying Prime RIBS teams were tasked to take supplies for search and recovery (16:13). The Air Force mortuary at Dover AFB, Delaware, was stocked with about 200 transfer cases and 200 pouches for mass casualty contingencies. The HQ AFESC

mortuary staff kept records of the quantity and location of other mortuary equipment located at Air Force mortuaries, Air Force bases, and Army and Navy stocks. About 800 total transfer cases were available within DOD. CENTAF prepositioned pouches rather than transfer cases to reduce storage requirements (34:--).

#### Other Equipment

Little changes occurred in the housekeeping sets during the last ten years. Table of Allowance 929 has been updated as needed; however, there has been no coordinated changes to standardize these WRM packages. Army Air Force Exchange Service (AAFES) support for bare base operations was developed during this period. In the Harvest Eagle system, tents are used for warehouse and resale areas. In the Harvest Bare system, an expandable shelter is used for retail sales and a general purpose shelter for the warehouse. AAFES determined the types and quantities of merchandise needed at bare bases. These items included personal care products and snacks. The set was called a Tactical Field Exchange (TFE).

Several projects were initiated at Natick Labs to improve Services support of contingencies. The Services contingency planning group believed that technological improvements in the subsistence and equipment used in the field could reduce the manpower requirements. Currently, Services requires about one cook for every 50 customers. If improvements could reduce that ratio to one cook for every 75 customers, the manpower shortfall would be proportionately reduced (82:--). Some of the projects to improve subsistence were improved B ration recipes, tray pack items for combat field feeding, and determination of optimal portion size for hot combat rations. Equipment improvement projects were underway as well. One project would design a multi-fuel burner system for field kitchens providing much needed flexibility and potentially safer systems than gasoline burners. Another project would develop a chemical sanitation system to reduce the dependency on burners for hot water sanitation of cooking utensils. A different project will attempt to design a better kitchen waste disposal system to reduce the waste residue at field feeding sites. All of these projects have potential to improve Services capabilities in the future (56:--).

#### SUMMARY

The improvement of Services contingency equipment enhanced the ability of Services forces to support contingencies. Development of new subsistence items such as the MRE and tray pack improved the quality of food, reduced transportation

requirements, and improved the storage-life expectancy. Newly designed, reliable, easy to operate systems such as the NHE, MKT, and GLCM FFSS provide practical systems for field operations. The next chapter describes how Services leadership initiated changes to the Services contingency organization to use improved equipment.

## Chapter Four

### SERVICES ORGANIZATION 1976 TO 1985

The development of an improved Services contingency organization depended on the actions of key leaders in the new Engineering and Services community. The consolidation of the Services functional area as explained in the introduction enabled leaders to arrive at consensus, determine a plan of action, and direct the implementation of the plan. The Engineers previously developed a contingency capability and were a valuable resource for the Services planners. The support from senior Engineering officers was critical to obtaining air staff approval of the Services plans. Services contingency planners identified the manpower, food, and equipment to start work. Through study, trial, and hard work the Services readiness program grew stronger. The description of the development of the Services contingency organization will begin in 1976.

#### 1976

In 1976, the responsibility for Services readiness was the Services Division at HQ USAF/PRES. This included developing policy and instructions for the manpower and equipment to support USAF and JCS plans (41:16-40). In practical terms there was no Services readiness program. There was no manpower assigned to work readiness issues. There was no definition of what tasks must be accomplished. Likewise, most histories and articles up to this time did not indicate management action toward developing Services readiness. Each major command had some level of experience in supporting contingencies. The larger commands such as MAC, SAC, TAC, PACAF, and USAFE had to support actual exercises and disasters (88:--). Somehow the Services staff muddled through. The most experienced person on the Services staff would estimate the amount of manpower, food, and equipment required. Major commands tasked bases to provide manpower on a "fair-share" basis. Equipment was pulled from the most convenient storage location and deployed. The Services officer and NCO at the contingency used experience and common sense to

provide the best support they could to deployed personnel. In view of the lack of guidance and training, these Services people performed exceptionally well. At the 1977 HQ SAC Engineering and Services conference, there was no record of discussions on readiness issues; however, the awareness of a need for improved Services capabilities would soon develop (33:--).

### 1977

In 1977, the Engineering and Services community was slowly obtaining consensus on the need for improved guidance in contingency operations. The Engineers' readiness program was relatively well developed. The Civil Engineer's RED HORSE program was an early contingency force that still exists today. The RED HORSE program used some of the food, tentage, and procedures that Services used for supporting contingencies. The Prime BEEF program had existed since the early 1960's as a response to the Berlin and Cuban missile crises. In Southeast Asia, the program changed to support counter-insurgency operations. In the 1970's, the program needed to meet the Soviet threat. The Air Force needed a large, rapidly mobile force that could launch and recover aircraft at relatively high sortie generation rates (5:18). Concern for readiness started at the top of the Engineering and Services community as Major General Robert C. Thompson, then Director of Engineering and Services at HQ USAF, directed several Services officers to solve the Services manpower problems to support Unit Type Codes (UTC's). A particular concern was the increased contracting of food services that reduced food service military authorizations. With this invitation, many Services people concerned about Services readiness were quick to cooperate and support readiness initiatives (85:--). In November 1977, an issue of the Engineering and Services Quarterly magazine was devoted to readiness. Lieutenant Colonel O.F. Smith delivered an article which explained why Engineering and Services had to develop a new capability to support contingencies. The posture of massive retaliation and US supremacy in the world had passed. In the post-Vietnam period, the US found that world interdependency, balance of power, and increasing tensions could require a conventional military response of any size to any location. Without the resources or influence to preposition manpower and equipment throughout the world, the Air Force must develop plans and capabilities to deploy and provide essential support (20:4-6). In the same issue of Engineering and Services Quarterly, Captain Jack Padgett, then Food Service staff officer at HQ USAFE, emphasized the need for Services officers to plan ahead and exercise to develop the combat readiness required (14:24-25).

1978

In 1978, Major General Thompson asked the question at the spring Engineering and Services Program Review Committee, "Do we need a Services contingency team and what should we call it?" (84:--). At that moment, Brigadier General Paul Hartung, then DCS Engineering and Services, HQ MAC, coined the term Prime RIDS. The Services community liked the idea and the name, but it took them weeks before they could figure out a good name to fit the acronym RIBS. Finally, they decided the term would be Readiness In Base Services (84:--). Brigadier General Clifton W. Wright, then Commander of the new HQ AFESC, directed several Services officers to perform a mission area analysis at Tyndall AFB, Florida, in July 1978. Lieutenant Colonel Roy Kennington, then Chief, Services Division, HQ SAC; Major Frank Dooley, then Chief, Services Division, HQ TAC; and Captain Ron McCoy, then Chief, Services Division, Tyndall AFB; participated in this first analysis with help from a few engineers. The analysis was difficult since data on the requirements and resources were not available, but a start was made (84:--).

Major General Thompson was convinced that the Services function needed to relate manpower authorizations to wartime commitments to avoid contracting initiatives which could potentially eliminate Services as a function. In 1978, he established Services officer and NCO readiness authorizations at HQ AFESC to work these issues (84:--). The readiness group was already well developed for the Engineering responsibilities. This group acted as the Engineering and Services representative in JCS and major command mobility and contingency planning. The group prepared the Engineering and Services input to the War Mobilization Plan (WMP). They were responsible for training Air Force active duty, reserve, and guard Engineering and Services personnel for contingency operations. The group operated an Air Force Engineering and Services Readiness Center during contingencies and exercises to direct and control deployed forces (37:10). During the same time frame, a policy group was established at HQ USAF/LEE to work long range planning, consultation, direction, and liaison between HQ USAF staff agencies and HQ AFESC (43:110). The responsibilities of this group included war, mobility, and contingency organization and manning (42:3). This structure helped the Services staff organize a capable Prime RIBS force.

#### Air Force Engineering and Services Center

During 1978, the Services staff from HQ USAF moved to the new AFESC at Tyndall AFB, Florida, and AFSO became a part of AFESC. AFSO established a field feeding task group to work with HQ USAF and HQ AFESC on equipment, menus, training, manpower,

procedures, and subsistence support (37:87). However, not much was decided and acted upon until the Services officer and NCO for readiness were assigned to HQ AFESC (92:--). Many Services staff personnel had good ideas and wanted to start the development of Prime RIBS, but none had the responsibility and authority to make changes. Readiness was an additional duty and there was little enough time to accomplish primary duties with the scarce resources provided.

Natick Labs, while evaluating a new field feeding system reported some of the key elements needed by the new Prime RIBS program. Researchers found that manning standards were needed; cooks should come from one unit rather than from many bases; training was needed for field food service management and cooks; and field feeding menus needed standardization. They also found that new labor saving subsistence should be used in the field, procedures for accounting needed to be developed, sanitation procedures should be developed, and standard layouts for field feeding equipment was needed (68:4-13).

#### 1979

In 1979 the Services readiness staff started making changes and creating the Prime RIBS program. Lieutenant Colonel George Murphy, the first member of the Services contingency planning group, described the task, "The biggest problem was to make people aware that housing, feeding, and clothing the troops would not magically happen." (88:--) They defined the Services contingency mission as feeding, housing, and clothing the deployed troops. They began evaluating existing the manpower and equipment to use in contingencies. They found that the plans to deploy Services personnel were inadequate; in some cases, the deployed locations had no facilities to prepare food. They concentrated their efforts on manpower and equipment requirements and training (88:--). The existing UTC's included Services personnel in several general combat support UTC's. These UTC's spread the scarce Services manpower over too many locations and were difficult to manage (87:--). They obtained approval to establish separate Services UTC's. Since 70% of the Services manpower was food service, they started designing UTC's to support the food service requirements. They determined the number of people to be supported as specified in the European theater operations plan. They also decided that the mess attendant function would have to be done by food service personnel (88:--). The program provided guidance to evaluate manpower requirements to operate CONUS bases in the event of mobilization. The philosophy was to support CONUS bases by contracting out or relying on civil service as much as possible

in order to deploy to the theater as many military Services people as possible (5:21). Prior to this time, the major commands had no central staff establishing standards and directing the implementation of standards. The contingency planning staff postured available Services manpower against these UTC's. HQ AFESC received approval to delay more contracting of food service until the assessment of how well we could meet our wartime needs was completed (88:--). Colonel Murphy conducted two workshops in May and June for major command staffs to explain the new UTC's and posturing requirements. By the end of the year, 274 teams had been postured (43:73). During this period, the Engineers were helpful in making the work progress swiftly. Colonel Murphy recently stated, "If we were not collocated with the Engineers, we'd still be trying to break the code." (88:--)

Another advantage of being combined with the Engineers was the Readiness Operations Center. The center became functional in July 1978 and moved to the new AFESC facility in October 1979. The center monitored activation of joint operation plans, acquired and passed information, deployed Prime RIBS and Prime BEEF teams to fit the contingency, and revised deployment lists to maintain currency with actual events. This facility provided the resource library and equipment for the detailed Services contingency planning (4:10-11). The center had the Worldwide Military Command and Control System and secure voice communication telephones (88:--). The Readiness Center became the link between HQ AFESC and the Air Force Operations Center's Contingency Support Staff in the Pentagon, major commands, US Readiness Command, The Joint Deployment Agency, and the Air Force Commissary Service.

While posturing UTC's, the readiness group made other decisions which established standards for Services planning and contingency operations. The number of meals to plan for was set at 90% of the deployed population. If 1,000 people deployed, the food, supplies, equipment, and manpower required was 90% of 1,000 or 900 (88:--). The readiness group decided the standard menu would be one meat, one vegetable, one starch, and a beverage with an optional dessert. They also reviewed the inventories of commissary stores and troop issue stocks to determine how much of the inventory would be useful during contingencies. The Air Force had previously reduced the inventory by 10% recognizing that some of the stock was light bulbs, brooms, cleaning supplies, etc. The review indicated that only 50% of the stocks would be food available for use in contingencies. Much of the commissary retail stocks were in household and beauty aids. One large problem was the disproportionate amount of beverage stock to complement the meats, fruits, and vegetables (37:--). In March 1979, the new subsistence support and contingency rations policies were approved. At the same time, the readiness group held a meeting with the European Command commissary staff. The

Army provides subsistence support for the European theater. They found that the Army's subsistence supplies would be used for the Army alone. The Air Force had no idea how it would receive its subsistence resupply in contingencies. The problem was turned over to AFCEMS for resolution (88:--).

In October 1979, HQ AFESC received formal approval from HQ USAF/LEE to establish the Prime RIBS program (43:73). Also, the Air Force Reserves began their Prime RIBS program and supported active duty deployed units (54:27).

### 1980

One of the key events of 1980 was the establishment of a Prime RIBS training site at Eglin AFB, Florida. Again the Engineers provided support and leadership in setting up a training program. The Prime BEEF Base Recovery After Attack (BRAAT) site at Auxiliary Field 4, Eglin AFB, Florida, had been in operation since May 1979 for rapid runway repair and bomb damage repair (5:21). When the Prime RIBS program was approved, the contingency group developed a curriculum for food service personnel at this training site. Initially the Engineers thought the Prime RIBS training was simply to feed the Prime BEEF students. A hard line had to be drawn to reserve the first two days of training for classroom instruction. The course initially provided two days of classroom instruction on burner units, field ranges and other food service field equipment, subsistence, field kitchen design, layout, safety, and sanitation. The final two days were used to exercise the new skills while feeding the Prime BEEF and Prime RIBS students on the site (19:4-5). The last day of training was devoted to cleaning the kitchen and preparing for the next class. The Meal, Combat Individual was used to feed the students those first two days (84:--) and (88:--). The first class was held in January 1980 (12:10). During the first few years of operation, the training program gave priority to food service personnel graduating from the basic food service training at Lowry AFB and enroute to the European theater (5:21). Now the training program includes field laundries, mortuary affairs, and billeting. Courses are provided for Prime RIBS officers, Prime RIBS trainers, and Prime RIBS team members.

The training program was important to getting the young Prime RIBS program institutionalized. The location with the Engineers provided an ideal site to experience field operations. The school became a test bed for new equipment, subsistence, and management ideas for contingency operations (85:--). In 1980, 242 Prime RIBS personnel from active, reserve, and guard units were trained at the site (39:62).

### USAFE Operation Support Center

On 29 March, 1980, the USAFE Engineering and Services Readiness Center moved into the new USAFE Operation Support Center (OSC). For the first time, the Engineering and Services force development division was collocated and considered part of the USAFE European Air Operations staff (2:30). The center contained the data base and computer terminal for the joint operation planning systems. The USAFE Engineering and Services contingency group had a secure voice terminal, a visual information processor, readiness display boards, and other administrative equipment. The USAFE contingency group provided coordination and direction for all European theater Prime RIBS resources. The center communicated with USCINCEUR, HQ USAF, US Army Europe, HQ AFESC, and MAC (2:31). The center provided the information, facility, and control needed to make the Prime RIBS program work in the European theater.

### New Start

During 1980 the Prime RIBS program continued to improve. UTC's were updated to include personnel with specialties in field laundry, billeting, and mortuary affairs responsibilities. Changes in Air Force Specialty Codes (AFSC's) increased Services manning. Enlisted billeting authorizations were 702XX and were converted to 611XX. Dormitory manager positions were in a special reporting identifier and were converted to 611XX. After exclusive Services UTC's were established, the personnel in 611XX, Services, and 622XX, Food Service Specialist, were considered critical skill manpower. With this designation, Services personnel would not be used to support other functional area contingency requirements. A new team was created to support major command and numbered air forces staffs. Using the new teams, 270 Prime RIBS teams were postured (39:59). Strategic withhold guidance was refined. For the first time, the Prime RIBS contingency planning staff matched the postured teams against Operation Plan 4102, the plan to support mobilization for Europe. The results uncovered severe problems in available manpower to cover the requirements. As a result, HQ AFESC began a program called New Start to convert contracted food service operations to military operations. The thrust was to get more military cooks to support the mobilization requirements (87:--). New Start proposed conversion of 29 full food service contracts in the CONUS to military operations over a four year period. If approved, the program would provide 1,300 additional Services personnel for deployments (16:14).

During 1980, the Services contingency planning group reviewed the equipment items in TA 156 for Harvest Eagle field feeding equipment and made significant changes in the standardization of equipment and elimination of items not

designed for field use (39:59).

#### Operation Red, White, and Blue

A test of the new Prime RIBS organization occurred in April 1980. President Carter authorized up to 3,500 Cuban refugees to enter the US. The President placed the Federal Emergency Management Agency (FEMA) in charge of coordinating the work of all federal agencies to care for the refugees. The Army was the executive agent for all DOD support (54:2-5). On 1 May 1980, the commander at Eglin AFB was tasked to provide support for 1,000 refugees at the Fort Walton Beach Fairgrounds located on Eglin AFB (54:42). The 3201st Air Base Group Services Division at Eglin was tasked to provide Services support. The readiness contingency group at HQ AFESC coordinated the taskings and needs through the readiness center. By 3 May, 250 refugees had already arrived. On that date, the first field kitchen arrived (54:45). The next day, 1,000 refugees had already arrived, and authorities informed Eglin to increase its support capabilities to 2,500 people (54:48). By 5 May, the base estimated that they would have to support 10,000 refugees. Billeting tents could not be pitched in time; therefore, alternate facilities such as the base gym, hangar number 68, and dormitories awaiting renovation were identified for rapid expansion. Because of the volume of refugees, meals were reduced from three to two a day (54:49). By 11 May, 9,997 refugees had arrived (54:58). The tent pitching finally caught up with the population on 15 May at 413 tents (370 sleeping, three shower, six latrine, four kitchens, two laundry, 10 dining, four dining supplies, and 14 for general support) (54:65). The last arrivals brought the total number supported to 10,025 (54:100). Tents, equipment, and manpower were removed from the refugee camp as the Cubans were processed out. On 26 September 1980, the last refugees left the camp and on 15 October the camp was officially deactivated (54:134).

The 3201st ABG Services Division was responsible for feeding, supplying cots and linen, assigning cots, and providing all supplies at the camp. During the first week, 3201st manpower was used for the required support. In the following weeks, personnel from the Air Force, Army, Navy, and Marines were assigned to support the refugees (54:22). Feeding was out of control as some refugees ate as many as five meals per day and many hoarded food. Finally, a meal card system was implemented (54:23). Mess control and sanitation control monitors were appointed from the refugee population to bring order to the dining procedures and reduce food stored in billeting tents (54:199). The food storage tents were placed off limits to refugees to reduce theft and improve cleanliness (54:66). A food service contract was instituted on 30 May, but terminated on 1 June due to poor performance (54:80). The processing of refugees was slow and the camp was extremely crowded. The security

officials thought the poor food might provoke a riot; therefore, military cooks with civil service augmentees were used for the remainder of the encampment. Transporting food to the alternate billeting locations was a problem. The food was centrally prepared and trucked to each site. Only one hot meal per day was served during the peak population. The 3201st experienced problems billeting the temporary duty military personnel as well. Motels as far as 28 miles away were used (54:24).

The Readiness Group learned many lessons from the Cuban refugee camp. During the support period, 210 military personnel were deployed to the camp. Equipment from the Army, Navy, FEMA, as well as Air Force assets were used. Assigning the diverse refugees required segregating families, single male and female, homosexuals, and criminals. The Eglin Services Division provided a senior manager in the support center to coordinate operations. The success of the operation relied on the expertise of the readiness group to provide the necessary resources when needed.

### 1981

During 1981, the readiness program continued to develop and refine Services readiness capabilities. The Readiness Group requested and received approval for base and major command Prime RIBS managers. This manpower action increased Services manning by approximately 300 (87:--). Due to new team configurations and reposturing the Services resources, 532 more personnel were made available for deployments. Workshops with the Joint Task Force resulted in a standardized wartime ration mix that reduced time for deployment and provided sufficient quality to sustain morale (40:60).

The Readiness group assisted HQ AFCONS in establishing a commissary contingency training school at the Prime RIBS training location. The new program was called Prime Food And REadiness (FARE). Prime FARE personnel became responsible for food issues to food service and operating Tactical Field Exchanges (TFE's) (40:64).

A program to train Prime RIBS personnel on Harvest Bare operations and maintenance was established at Holloman AFB. The first class began October 1981. The yearly quota was 50 Prime RIBS personnel per year. The course included a five day exercise to give hands-on training (40:65).

The Air Force Reserve continued to improve support to the Air Force readiness program. Their Prime RIBS program postured 493 Services people for deployment. They continued to train at

the Eglin site. The Reserves scheduled exercise participation at eleven European locations and in all regular major command exercises. The additional trained personnel provided by the Reserve Prime RIBS program was essential for Services readiness to meet its requirements (15:27).

## 1982

On 10 February 1982, Air Force Regulation 140-3, Air Force Services Prime Readiness Base in Services (RIBS) Program was published. This regulation was the first published guidance for the program. AFR 140-3 put teeth in the Prime RIBS program from Air Force level to base level. The regulation explained the program, established policy, set training requirements, described equipment, set up the Air Force Reserve Individual Mobilization Augmented Program for Prime RIBS, and required Prime RIBS reporting requirements. AFR 140-3 was more than a "how-to" book. By establishing responsibilities and providing guidance, the regulation enabled Prime RIBS managers to use regulatory reference to accomplish manpower changes, contingency planning, training, and equipment procurement. All Services military personnel except those identified as strategic withhold were considered Prime RIBS. All vacant civilian Services positions were to be identified for conversion to military authorizations. Prime RIBS members were required to have standard mobility bags. Deployment authority for the AFESC Readiness Center and major commands was clarified. Response times to deployment taskings were set at 28 hours. Twice each year, Prime RIBS managers were required to report program status (26:1-20).

## Falklands War

The Falklands War helped HQ AFESC justify the New Start program as it moved through the budget process. Argentine forces captured the Falkland Islands on 2 April 1982. The British waged a 74 day war to recover the islands. During the course of the conflict, newspapers reported that undernourishment and poor clothing of the Argentines were a significant factor in the British victory. The inhabitants of the Falklands reported theft of food from their homes by Argentine soldiers (8:7). The Argentine soldiers stated that they did without hot food and warm clothing (1:1). Argentine soldiers reported that rations were shipped to the island but were not distributed to the estimated 11,000 soldiers. They reported that field kitchens would not work. Troops complained that their clothing and boots were not of the same quality as the British. The lack of support significantly reduced morale (1:12). These reports were relayed to the Air Force Studies and Analysis group at HQ USAF to help

justify the New Start program. During 1983, the New Start request was approved by the Defense Resources Board to begin in fiscal year 1984. Unfortunately, the program was canceled during the last budget review (44:--).

### 1983

The Prime RIBS program increased visibility with the start of the UNIT Status and identity REPORT (UNITREP). The UNITREP program reported combat readiness of a unit to senior Air Force leaders, thus obtaining their support for the critical needs to maintain combat readiness of those units. The Engineers' experience indicated that UNITREP reporting of readiness needs helped obtain major command funding for equipment. In March 1983, the Services Prime RIBS program was included in this reporting system. UNITREP emphasized the need to bring the Prime RIBS program to mission ready status (3:34-35). In the past, many Services units shunned deploying personnel for training or exercises because of scarce manpower. The visibility caused by UNITREP induced Services units to seek training opportunities in field exercises or at the Eglin training site (7:33).

Air Force Pamphlet 140-4, The Prime RIBS Manager's Handbook, was published on 23 September 1983. This regulation greatly expanded the policy and guidance of AFR 140-3. The handbook clarified the responsibilities of Prime RIBS managers and gave specific instructions on establishing a base Prime RIBS program. It provided detailed lesson plans for home station training and procedures for administrative record keeping. A list of documents for a Prime RIBS library was provided. Specific guidance on deployment notification and preparation was included. Detailed procedures for operating field billeting, laundry, mortuary, and food service were provided. Specific field food service accounting instructions were included. Equipment specifications and supply requirements were listed (28:--). The pamphlet provided much needed information to the base level managers.

During 1983, an important study of Air Force food service operations in a Nuclear, Biological, or Chemical (NBC) environment was performed by Natick Labs. Natick was tasked to define, evaluate, and document concepts for operating under NBC hazards (76:1-3). Natick narrowed the study to the chemical threat. A nuclear attack either destroyed subsistence and facilities or could be easily detected. Procedures existed to discard contaminated foods. The biological threat was incorporated into the chemical threat since the biological agents usually acted on foods as chemicals. Natick prepared a procedure

guide with specific instructions on pre-attack, attack, and post-attack measures for facilities, equipment, and subsistence. The guide included alternate facilities such as clubs and snack bars as well as mobile facilities such as the Harvest Eagle and Harvest Bare systems. Fortunately most food packaging and equipment were resistant to chemical penetration; therefore, the guide describes how to prevent external contamination and decontaminate these items (76:7-73). The long term value of the project might have been the identification of facility construction, food packaging, and equipment materials and designs to improve the ability of food service to operate in an NBC environment.

The readiness group found a lack of standard operations planning for Prime RIBS support in the three theaters (Europe, Pacific, and Southwest Asia). Teams were not determined by the requirements of the operating plans. Each theater established teams differently. One of the problems was the combination of food service specialists and services specialists on each team. If a location had a need for just food service specialists, then the major command had to pull Services specialists too (82:--). work started on Prime RIBS team reconfiguration.

In February 1983, AFESC resubmitted the New Start proposal into the budgeting process. DOD supported the request; however, due to the President's directive to reduce Air Force manpower growth, the Air Force Board cancelled the initiative. Recognizing the need for more Services manpower, the board approved funding for 878 new Air National Guard food service positions (62:--). The Guard was able to posture 40% of their requirement by August 1985 and established a goal for 100% in fiscal year 1986 (89:--). The Guard's success in filling these authorizations has precluded the need to resubmit a revised New Start proposal (62:--).

## 1984

### Mortuary Affairs

In July 1984, the Air Force mortuary affairs function moved from the Air Force Manpower and Personnel Center (AFMPC) at Randolph AFB, Texas, to HQ AFESC. This function had a major command and base level Services responsibility but was removed from the HQ USAF Engineering and Services responsibility in August 1979. As a result, mortuary affairs had not developed a readiness capability along with the other Services functions. The unusual organizational structure which placed mortuary affairs at base and major commands under Services and the Air

Force level under MPC caused a breakdown of strong central guidance. The AFESC readiness group developed training and guidance in the Prime RIBS program; however, since the primary office was at MPC the full realization of mortuary readiness did not occur. MPC had procedures for reporting deaths, a part of the Personal Affairs function; however, MPC was not action oriented for the mortuary affairs taskings (34:--).

The Air Force became involved in mass casualty events even if the deaths were not Air Force members. The Dover AFB, Delaware, mortuary was used for the Tenerife aircraft disaster (576 victims) and Jonestown, Guyana, disaster (over 900 deaths) (22:28 and 10:29). The Dover mortuary was the largest in the world but not sufficient to accommodate more than 250 remains. The Army's mortuary at Oakland, California, could expand to accommodate about 250; however, there were several disadvantages. The remains had to be transferred from the San Francisco, California, airport approximately 50 miles to the Oakland mortuary. The expansion required removing partitions and moving supplies for more space. Additional morticians would have to be contracted. The Joint Requirements Management Board directed the Army to be the executive agent for Graves Registration. The Army wanted to make contingency plans for joint service scenarios. The Air Force mortuary affairs staff saw little to be gained from such joint planning. In the past, the separate services have cooperated easily. Two of the current issues facing mortuary readiness are the need to have more Prime RIBS members trained in depth on graves registration and how to stockpile supplies for contingencies (32:--).

AFR 143-5, Armed Services Graves Registration Office, and AFR 143-7, Graves Registration Service in Support of Major Military Operations, were considered insufficient to adequately handle mass casualty operations. Senior Services leaders became increasingly concerned over the lack of exercises to implement a Joint Graves Registration Office to find out what our capabilities really were (61:--).

#### War Mobilization Plan

During May 1984, the Annex S, Appendix 5, Services, War Mobilization Plan, was updated to reflect the current policies of the readiness contingency group. This appendix provided detailed guidance on eliminating peacetime duties in wartime, planning for theaters of operation, and levels of service expected of each Services function. The WMP specified the rations for deployed locations as A rations until stocks are exhausted, followed by prepositioned MRE's for the first ten days, then B rations. The Defense Personnel Support Center (DPSC) would "push" B rations from CONUS stocks for a 90 day supply at each location with a food service operation. The standard menu was described as two

hot meals and one MRE per person per day (67:S-5-4).

#### B Ration Menu

In April 1984, AFR 146-8, Standard B Ration, was published. This document provided the detailed menu planning Prime RIBS managers needed to determine subsistence requirements. The publication provided two ten day menus. One menu provided plans for two hot B ration and one MRE per person per day for the first 90 days of a contingency. The second menu provided plans for some A ration items to be integrated into the first menu after the 90 day period. This standardization enabled exercise planners to incorporate the menu into calendar year 1986 exercises. One of the problems with B rations was the 200 plus day lead time required for DPSC to fill an order (31:--). If the Air Force begins regular procurement of the B ration, the lead time may be reduced. The development of this menu enabled a more accurate calculation of menu requirements. Plans to supply these requirements would be considered by the Troop Subsistence Working Group.

#### Troop Subsistence Support

During the April 1984 HQ AFESC and HQ AFCCMS Troop Subsistence Support meeting, HQ AFESC accepted the responsibility to develop an overseas subsistence prepositioning plan. Annex E, Logistics, War Mobilization Plan, detailed AFCCMS subsistence support for contingencies. Subsistence stored for contingencies above peacetime operating stocks would be WRM. The plan provided for prepositioning wartime subsistence requirements in the overseas theater (66:E-31-32). An Overseas Subsistence Prepositioning Study Group met 10-12 September 1984 to evaluate overseas warehousing shortfall for prepositioning WRM subsistence and developing a plan of action to meet prepositioning objectives (49:--). Funds had been available for years to procure subsistence to meet prepositioning objectives; however, the lack of warehouse space forced AFCCMS to delay procurement of the supplies (50:--). The study group decided to include the peacetime stocks and food enroute along with prepositioned food to provide the prepositioning requirement. Subsistence on hand would be considered prepositioned. Alternatives to provide the rest of the objective were; storing WRM at each base, central warehouses managed by AFCCMS in each Area of Responsibility, and DPSC managed warehouses in each area of responsibility. The recommendation was that DPSC would manage WRM for three areas of responsibility, central Europe, the United Kingdom, and the Mediterranean; and AFCCMS would manage Spain. The study group's recommendation was accepted.

The group met again in January 1985 to consider the problem of rotating the subsistence through WRM storage to avoid monetary

losses due to expiration of subsistence shelf life. They recommended that the quantity of subsistence prepositioned be dependent on the ability to rotate stocks. The total requirement should be procured, the amount stored within a theater would be the amount that could be rotated within the theater, with the remaining amount from the most demanding theater's objectives stocked in the CONUS. A 30 day supply of MRE's will be stocked in Southwest Asia while a 30 day supply of B rations for Southwest Asia would be stocked in the CONUS. B ration rotation would be encouraged by a 50% reduction in price at Air Force dining halls (50:--).

The third subsistence prepositioning study group met in September 1985. The group focused on various problems involving stock rotation and supply. They emphasized B rations should be used at exercises, the need for a standard DOD menu, the potential of the complete B ration menu on a pallet, the need for additional training for cooks on B ration preparation, and AFCONS' responsibility to manage Tactical Field Exchanges (64:--). The work of the prepositioning study group was important to the detailed planning and stocking for Services contingencies. The Air Force Chief of Staff emphasized the use of MRE rations during exercises, citing the potential to lose up to \$7 million annually due to shelf life expiration. (57:--). This detailed guidance would be added to the War Mobilization Plan for implementation by all commanders and Services planners.

#### Functional Management Inspection

The Air Force Inspection and Safety Center Services team performed a Functional Management Inspection (FMI) of Services Contingency Readiness from 11 October 83 to 17 August 1984. The findings indicated that the Services readiness program gained visibility and rapidly expanded capabilities since its inception in 1979. The program demonstrated improved abilities during many worldwide deployments. The management attention given readiness continued to be commendable. The team found several areas where the program could be improved (35:2). The findings included: home station training programs were not realistically conducted, the administration of base level programs needed attention, a standard inspection evaluation criteria was needed, major commands needed to provide better guidance for planning, bases needed to improve planning, the self inspection program could be improved, and CONUS sustaining forces needed to be developed (35:2-4). The report recognized that some corrective actions had been initiated. AFP 140-4, Prime RIBS Managers Handbook, and the HQ AFESC-developed multimedia training lessons would help managers plan home station training, administer the program, and improve planning. Standard inspection criteria were being developed and would be included in AFR 140-3, The Prime RIBS Program, and AFR 123-1. AFESC was drafting a new pamphlet, Base

Services Contingency Planning, as a "how-to" guide (35:7-12). The pamphlet provides detailed instructions on what issues, capacities, menus, and computations should be included in contingency plans. Sample charts, checklists, and plan outlines are provided. The new pamphlet will be a comprehensive guide for experienced and inexperienced Services planners (78:--). The Air Force Engineering and Services Management Engineering Team (AFESMET) was developing food service CONUS sustaining manpower standards. AFESMET scheduled the study and development of billeting standards (35:18). This inspection report assisted the Services readiness group by summarizing the significant problems in the Prime RIBS program.

## 1985

### Prime RIBS Team Restructuring

Services readiness managers continued to refine the Prime RIBS program in 1985. The most significant improvement was the new Prime RIBS team structure. The old structure tasked both cooks and Services specialists on the same team. The resulting team did not match many deployed location requirements nor allow posturing of all Services personnel. The Services contingency planning group restructured the teams and major commands repostured their resources in February. The War Mobilization Plan was changed in October (11:17). The reposturing reduced the Services manpower shortfall by about 1200 members (58:8).

Several improvements to Prime RIBS training were completed in 1985. A Prime RIBS training site at Dobbins AFB, Georgia, was approved and started training Services people in October 1985. The expanding training requirements caused by revision of AFR 140-3 and posturing more Services people emphasized the need for more training capacity. About 500 students were expected to attend the new site during fiscal year 1986 (58:--). Prior to the Dobbins training location, Prime RIBS training courses were established at Ramstein AB, Germany, and in 1984 at Kunsan AB, Republic of Korea. Improvements to the training program at Eglin were completed in September 1985. The goals of the improvement project were to make training as realistic as possible, refurbish the training facilities, and increase the scope of material taught. Additions to the Prime RIBS curriculum include explosive ordnance reconnaissance, nuclear, biological, and chemical agent orientation, and billeting in the survivable collective protection system. The Mobile Kitchen Trailer and New Harvest Eagle system will be made available to train food service personnel (24:8-11). A readiness course for major command and base level mobility managers was developed at AFIT in November

1935 (30:2).

A new AFI 140-3, Air Force Prime Readiness In Base Services (RIBS) Program, was published in May 1985. The revised regulation expanded the Prime RIBS program to include more Services personnel in the CONUS and overseas, changed and clarified training programs, improved definition of base level and major command planning responsibilities, provided procedures for determining the strategic withhold, and more clearly described the use of reserve forces in the program (27:29).

A Services action officer was added to the Directorate of Engineering and Services Plans Division (AF/LEEX) in the Pentagon. This action officer would provide the Services point of view in the many activities of the Plans Division. He was the AFMSC and major command's staffer on the Air Staff circuit to represent Services on issues concerning operating plans, budget initiatives, UNITREP, manpower, and other plans (59:--).

In October 1985, the issue of arming Prime RIBS teams surfaced. Some major commands were arming their Prime RIBS teams, but there was no Air Force policy to do so. However, direction from HQ USAF/LEE in November was to deploy Prime RIBS teams with weapons (81:--).

#### Mortuary Affairs

The need for better mass casualty capability surfaced on 12 December 1985. A contract civilian airliner returning 101st Airborne Division Army personnel from the Sinai crashed at Cander, Newfoundland. Search and recovery of the remains was performed by the Royal Canadian Mounted Police; however, snowfall after the crash prevented timely recovery of all remains. The Dover AFB mortuary was used to handle the 256 victims. Over 300 volunteers worked shifts to provide 24 hour manning in the mortuary. The Armed Forces Institute of Pathology assisted by providing identification specialists. Efforts to identify all the remains was slow; many of the medical records of the victims were destroyed in the crash.

The logistic support required at the Dover AFB mortuary was staggering. Security forces, fences, and line badges were required to keep the public out of the area. Communications, transportation, X-ray machines, refrigeration, new uniforms, honor guards, computers, and latrines were obtained quickly to support the processing of remains. As of 8 January 1986, only 126 out of 256 remains were positively identified. This mass casualty operation received attention from senior military and civilian leaders as well as the public and press (86:--).

Lessons were learned. An executive agent needs to be

appointed to maintain overall responsibility for mass casualty operations. Medical records for deployed troops should be consolidated and protected from loss or damage. If possible, records should be shipped separately. A method to locate skilled manpower and unique resources was needed. The Dover mortuary needs a ventilation system. Mortuary affairs needs procedures for disposal of the large quantities of X-ray fluid. Better plans on the use of computers to identify and maintain records on remains are needed (86:--).

The plan to have contract food service replace military food service operations during contingencies has been scheduled for testing. Usually a base will not deploy its full Prime RIBS team for an exercise since they lose the capability to support the units remaining at their home installation. This test will evaluate the ability of a contractor to provide manpower to replace deployed military personnel. If successful, contracts could be converted, more cooks postured, and teams could deploy together for realistic training (61:4).

#### SUMMARY

The organization of Services contingency forces progressed significantly from 1976 to 1985. The creation of the Prime RIBS program helped organize, train, and define requirements. The HQ AFESC Services contingency planning group provided guidance in the MHP and regulations for major command and base level Services staff to develop plans and readiness programs. Senior leadership emphasized development of Services contingency capabilities as a system. Each component (subsistence, equipment, manpower, and planning) had to be integrated to make effective use of scarce resources. In Chapter Five, several Services contingency responses will be reviewed.

## Chapter Five

### SERVICES RESPONSE TO CONTINGENCIES

The development of capable Prime RIBS teams has been dramatic. The Services community is aware of its wartime mission and how they plan to do job. The real test comes when an actual contingency or exercise tasks the Prime RIBS system to provide that support. The 23 October 1983 attack on the US Marine Corps facility in Beirut, Lebanon, killed 239 US military members. The task of caring for these remains was assigned to the USAFE mortuary affairs staff. The operation was successful, but there were lessons learned. Other less emotional but demanding tests of the Prime RIBS program were the 1985 CENTAF exercises, Bright Star 85, Inferno Creek, and Shadow Hawk 85. These exercises tasked Services people in bare base situations to provide food, clothing, and shelter to deployed personnel. The Services teams did an outstanding job, but as expected there were lessons learned. This chapter will briefly explore these two cases to help assess the current readiness of Air Force Services.

#### THE BEIRUT LEBANON MASS CASUALTY OPERATION

##### Tasking and Preparation

On 25 October 1983, two days after the attack on the Marine Corps barracks in Beirut, HQ EUCOM assigned Brigadier General Joseph Ahearn, DCS Engineering and Services, USAFE, Ramstein AB, Germany, as the executive agent for the Beirut mass casualty operation. The task was to recover, identify, prepare, and return to the US the remains of the US military members who died in that attack (32:2). General Ahearn appointed Lieutenant Colonel John Maloney, Director, Housing and Services, USAFE, as the officer in charge of the USAFE mortuary control center. USAFE Services personnel served as the manpower core for the control center. The center arranged shipment of body bags and transfer cases to Beirut and the shipment of the remains to Rhein-Main AB, Germany. At this time, the control center was told there were 57 believed dead in the attack (32:4). The

control center chose the largest mortuary in Europe, the Army mortuary at Frankfurt, Germany, to handle the remains. This mortuary has a storage capacity of 80, four embalming tables, and a large holding area. By the third day, the number believed dead rose to over 200. The control center staff decided that the operation would have to be handled at two locations; however, all remains would have to be processed at both locations since the embalming facility was permanently installed at Frankfurt (32:5). By 26 October, 226 of the remains had been received. The last of the 241 remains were received on 1 November 1983 (32:--).

#### Action

The identification phase was located at Rhein-Main AB. The key requirements were sufficient storage space, sufficient processing area, trained personnel, and adequate communications to the mortuary control center and the Frankfurt mortuary. Other support requirements were transportation, security of the mortuary, and utilities (32:6). The main objective was to identify and return viewable remains to the next of kin as quickly as possible.

The identification specialists separated remains into four groups based on the viewable/nonviewable and identified/unidentified categories (32:8). The Army at the Frankfurt mortuary validated the Rhein-Main identification and prepared the remains. The identification had to be accurate. Senior military leadership wanted to be certain that the next of kin had confidence in the identification process (32:9). The identification phase was successful. Of the 241 remains received, 237 US military were positively identified, two were foreign nationals, and two skeletal remains were shipped to the identification center at the Mortuary Service Center in Hawaii (32:--).

General Ahearn had set a goal to return 90% of the remains to the US within two weeks or 7 November 1983 (32:2). He set up the return airlift from Frankfurt to the Dover AFB mortuary to accomplish this goal (32:11). The return phase rate was also successful. By the tenth day, 89% had been returned and 99% by day thirteen (32:10).

#### Lessons Learned

Even though the Beirut mass casualty operation was successful, there were problems coordinating the large scale casualty operation. Control of information was important. The initial reports on the number dead were inaccurate and impacted on decisions made early in the operation. The release of information during the operation was not centrally coordinated. Each organization released its own progress reports that confused

reporters and next of kin (32:12). Another problem was the unrealistic contingency mortuary plans at European bases. Many of the facilities intended for such an operation were not available or adequate for peace time mass casualty operations. The lack of standard administrative procedures and trained personnel made the operation inefficient and slower than necessary. The Army and Air Force forms were different, thus causing delays in processing remains (32:13). Medical and dental records were not readily available. Identification tags and cards were not always shipped with remains or were not sufficient or usable for identification. During the recovery of remains in Beirut, there were no records of where remains were found. Such a record can greatly assist in identification of remains (32:14).

### Recommendations

The USAFE mortuary affairs staff reported many good recommendations to improve Services' ability to handle mass casualty operations. An initial recommendation, latter disapproved, was that a portable mortuary be developed. This recommendation also included provisions for supplies, equipment, and trained personnel (32:15). This initiative was found to be redundant since existing mortuaries could satisfy the requirements. Other recommendations included improving medical and dental records for quick access in such situations and providing identification cards and tags that are more durable and informative (32:16). The military services should develop standardized forms and establish joint information centers for such casualty operations.

The Beirut mass casualty operation challenged the readiness of Services to quickly and efficiently handle a large peacetime operation. Through quick reaction and fine leadership, the operation was a success. It demonstrated the need for more training, equipment, and planning. The 1984 move of the Air Staff mortuary affairs function to HQ AFMSC enabled Services contingency planners to begin addressing these needs. The next Services contingency response will examine the support of forces deployed at base locations.

### 1985 CENTAF EXERCISES

Prime RIBS teams provided support to three CENTAF exercises in the summer of 1985. The exercises were all in Southwest Asia and used Harvest Eagle assets in addition to host country facilities. Bright Star 85 had a population of 2200; Inferno Creek, 600; and Shadow Hawk 85, 550 (65:--). According to the CENTAF Services Superintendent, Chief Master Sergeant John Howry,

the performance of Services contingency teams improved 100% since the Prime RIBS program has been developed (87:--).

#### Bright Star 85

At Bright Star 85, little host nation support was available. The food service facility was a Harvest Eagle kitchen, two sub-sets of the Eagle kitchens (a subset is sufficient equipment to feed half the population of the standard set or 550), and one Army medical kitchen. The field equipment was satisfactory; however, the Army's M-2A burners were not servicable and some spare parts were missing. The menu was the B ration palletized menu developed by ARCENT and CENTAF. Each pallet contained all the subsistence to prepare two dinner or two breakfast meals for 100 people. The menu offered ten different selections for dinner and ten for breakfast. The pallets made ordering and inventorying easier. The system required fewer AFCONS Prime FARE personnel. The disadvantages included more boxes to handle at the food service warehouse, little menu variation, and a relatively poor menu. The percentage of participants dining in these facilities was 63%. Bright Star was the only location with a Tactical Field Exchange (TFE). The AAFES liaison and Prime FARE personnel assigned to operate the TFE were not trained on field operations, and as a result, problems were numerous. The ration policy of one beer and two sodas per day required a lot of manhours to administer. Instead of the field laundry, commercial washers were deployed. The Civil Engineers had to perform excessive maintenance to keep the washers in operation. Personnel dried clothing by hanging it on clothes lines. Personnel were billeted by unit in Harvest Eagle and host nation tentage. The billeting operation went smoothly. The Services officer had to process three Army remains during the exercise. The remains were shipped from the exercise location within 24 hours without problems (65:--).

#### Inferno Creek

The deployment at Inferno Creek was the closest to classical bare base conditions. The Harvest Eagle sub-set kitchen was used; however, some poles and equipment were not included in the shipment. The menu was the standard B ration field feeding menu from AFR 146-8 as modified by the Prime RIBS team. Attendance at the food service facility was 80%, the highest of the three locations. The menu improvements were two entrees instead of one, more spices, and some items not listed in 146-8. Unfortunately, the food service operation exceeded their monetary budget partly due to the menu changes. Commercial washers were used at Inferno Creek and Harvest Eagle tents provided billets (65:--).

## Shadow Hawk 85

The Shadow Hawk 85 exercise provided support for about 550 personnel. The field kitchen was a Harvest Eagle sub-set; however, there were many equipment problems. Some essential equipment was not received, such as immersion heater exhaust pipes, circuit breakers, a tent pole, a generator, and some fittings and pipe for the ice and beverage machines. The standard B ration menu from AFR 146-8 was used; nevertheless, not all the food was shipped to the exercise location. Meal attendance was 62%, the lowest of the three exercises. The medical sanitation inspection program at Shadow Hawk did not reduce home base standards to reflect field operations; therefore, extra manhours were used to try to satisfy the high sanitation standards. Shadow Hawk did not receive field laundries or commercial machines, personnel had to wash clothes by hand. Billeting was in host nation dormitories (65:--).

## Recommendations

The CENTAF Services contingency staff and exercise participants made recommendations to improve the Services support for future contingencies. Contingency planners expected the deployed Services team to have at least 75% trained personnel, but at two locations, only 10% were trained, and at the third location, only 40% of the personnel were trained. Delays in feeding were the first problems experienced at these exercises. Trained Services personnel would have been able to pitch tents, assemble equipment, and prepare the first hot meal faster than the relatively untrained force. Base level Prime RIBS managers appear to use exercises to accomplish a major portion of the formal training requirements. Kitchen operating hours needed to reflect the needs of supported personnel. Long lines could have been avoided by extending serving hours. The standard B ration menu needs to be changed to offer optional second entrees, additional spices, delete unacceptable items, and increase beverages. Clarification is needed on the responsibility to provide beverages to workers at their duty locations. Equipment responsibilities for ice machines and beverage jugs should be assigned to either food service or the using organization. In the absence of clear guidance, food service is the logical source commanders turn to for beverage support. If food service is tasked, a separate money allowance should be provided. The TFE needs refinement and personnel deployed need to be trained for TFE operation. A standard billeting form is needed. The problem with missing kitchen equipment is a recurring one. The shipper needs to develop better quality control to ensure all the necessary equipment and accessories are included (65:--).

## SUMMARY

These Services contingency responses demonstrated that Services will provide the support required. These examples show that much progress has been made developing requirements and plans for most Services functions while others need attention. Execution of the planned level of support falls short of expectations primarily because of untrained personnel and poor logistical support. Chapter Six summarizes the findings and recommendations.

## Chapter Six

### FINDINGS AND RECOMMENDATIONS

The development of Services contingency capabilities is not complete. Better support could be provided with more resources. The program is very good now, but it can be refined. In addition, some attention needs to be directed to future needs.

As different missions and improved technology become available, the program must change to provide the best possible support. Services contingency planners need to reflect on the history of Prime RIBS and past contingencies to improve contingency capabilities. In this chapter, findings and recommendations are made to suggest improvements.

#### Findings

Improved training is an immediate concern. More people need training on more subjects and in greater depth. The increase in postured personnel demanded more from the established training sites than they were designed to provide. Formal training requirements reported through UNITREP will encourage Prime RIBS managers to maximize training quotas and exercise opportunities. Training is more beneficial at the formal courses. Home station training needs more emphasis.

Many exercises are designed to be successful and fail to adequately test Services readiness. Too often exercises are preplanned to ensure the Services team knows exactly what to expect. Many commanders demand fresh foods or distinguished visitor billeting support that cannot be provided in actual contingencies. Prime RIBS teams are not deployed as a team, but deployed teams are combinations of teams from many units. Field laundries are rarely used and graves registration scenarios are rarely included in exercises.

Equipment must be upgraded and used in exercises. Deployed Services teams are using outdated kitchens, tents, laundries, and

supplies. Better equipment has been designed. Most Services contingency planners have not identified the field equipment necessary to realistically meet contingency requirements. Pre-identified alternate facilities are often not available in the actual contingency. If permanent facilities are contaminated, field feeding facilities could be used to sustain forces.

Better mortuary affairs and graves registration planning is needed. A mass casualty disaster can happen anywhere. Plans for joint service response to such disasters are needed. Coordinated manpower, equipment, and procedures need to be developed. Response to graves registration scenarios need to be planned and exercised.

Subsistence items for feeding in an NBC environment should be developed. After a contaminating attack, there are no foods to use until the subsistence, equipment, and facility are decontaminated and inspected. This delay could be too long. Some maintenance and operations personnel may have to remain on the flight line for extended periods. They may require food while encapsulated in their protection suit.

### Recommendations

Increased training requires additional resources and management attention. The recent addition of Dobbins AFB and Kunsan AB training sites greatly increases the formal training capacity. The major command and base level managers need to emphasize home station training. Aggressive Services personnel need to be assigned these duties. A strong trainer's course could be established. Mobile training teams could be effective. Training needs to include more on mortuary affairs and graves registration.

Exercises need to be realistic. Taskings must be difficult. Air Force leaders need to be able to make mistakes in exercises to learn better ways to accomplish actual contingencies. Exercises should start with minimum notice. The Prime RIBS team should be deployed as a unit. The home base needs to be supportive of the Services wartime taskings. The logistics system should be tested for quick response for equipment and supplies.

The best equipment available should be procured. New Harvest Eagle sets are needed for each theater to make exercises realistic. The sets should be stored and shipped as sets to avoid missing components. Representative components of the New

Harvest Eagle should be purchased for each home station training unit. Better laundries are available and should be purchased for each theater.

A significant planning effort should be initiated to improve mortuary affairs capabilities. Trained teams should be available to respond. Assets need to be prepositioned overseas. It is impractical to store mortuary supplies and equipment at every base for mass casualty disasters. Additional assets should be located in the CONUS for augmentation of theater assets. Coordination of joint services capabilities should be improved.

Services planners need to continue looking ahead to develop improved equipment and subsistence. Foods need to be developed that can be consumed through the chemical protection suit. Natick Labs should be tasked to develop acceptable foods to sustain workers for extended periods.

### CONCLUSION

The Services functional area's ability to respond to contingencies improved during the 1975 to 1985 period. Services functions consolidated under a single Air Force level organization. Development of subsistence and equipment further enhanced the Services capability. The establishment of a Services response force, Prime RIBS, significantly improved the ability to provide support when and where needed. Prime RIBS forces deployed and successfully supported many contingencies.

The Services functions centralized at HQ AFESC between 1975 and 1984. The integration of Services functions enabled Services staff personnel to identify the need for readiness to support contingencies. As a single Air Force staff organization, the Services staff was able to implement improvements.

Subsistence and equipment improvements were initiated by HQ AFESC and developed by Natick Labs. The New Harvest Eagle kitchen, Mobile Kitchen Trailer, and GLCM Field Food Service System were fielded to solve Services contingency problems. The elimination of the Harvest Bare and replacement of the Harvest Eagle was needed to focus on the improved equipment. T rations and MRE's provided better foods to use in contingencies. Projects to continue improvement of equipment and subsistence are in progress.

The Prime RIBS program improved the planning for contingencies and readiness of Services forces. Prior to the Prime RIBS program, there was little coordination of effort to

support contingencies. However, Services contingency planners institutionalized the Prime RIBS program. The Services response concept was included in the War Mobilization Plan. Prime RIBS forces were assigned to specific operations plans. Formal and home station training was required for Prime RIBS members. Written guidance was provided in regulations and pamphlets.

Services response forces have been deployed to support many contingencies. These Prime RIBS teams demonstrated improved abilities to perform their job. Actual disasters and exercises have shown that further improvements in training, realistic exercises, updated equipment, and improved mortuary affairs capabilities are need.

This report described the development of services contingency capability from 1975 to 1985. The Services functional area changed considerably during this period. The improved Services capability was significant. Services contingency planners continue to make improvements. This report provides the foundation on which to understand the current Services capability and to consider future improvements.

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## GLOSSARY

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- AAFES.** The Army Air Force Exchange Service. During contingencies, AAFES provides health and personal hygiene items and other resale merchandise to deployed personnel. Prime FARE personnel will operate tactical field exchanges.
- AFCOMS.** The Air Force Commissary Service. The wholesale and retail logistics system for subsistence is managed by AFCOMS. The Troop Issue function of the commissary system provides subsistence to food service organizations. During contingencies, Prime FARE forces will operate troop issue supply points.
- AFEA.** The Air Force Engineering Agency.
- AFESA.** The Air Force Engineering and Services Agency.
- AFSO.** The Air Force Services Office. This office was located at the Defense Personnel Support Center, Philadelphia, PA. from 1966 to 1979. Services functions within this office included food service, clothing and textiles, and laundry and dry cleaning.
- AMC.** The Air Material Command was the forerunner of today's Air Force Logistics Command.
- A Ration.** This designation describes subsistence components that are considered perishable. Typical types of A rations are fresh or frozen meats, vegetables, and fruits. Packaged foods are A rations if they require refrigeration or have a relatively short shelf life. Under normal operations, A rations are used on a daily basis in USAF dining facilities.
- Bare Base.** A base that has as a minimum, a runway, taxiways, and parking areas that are adequate for the deployed force and possesses an adequate source of water that can be made potable.

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**BASS.** A Base Augmentation Support Set is a grouping of reusable, lightweight air transportable equipment and facilities to provide base operating and housekeeping support. Each set will support 4,500 people in a bare base or austere environment. BASS are designated War Reserve Material and are part of the Harvest Bare system.

**Billeting.** In a contingency situation, the billeting organization is responsible for pitching and striking personnel living tents, for setting-up and disassembling equipment for personnel living tents, assigning bedspaces, and maintaining a personnel locator system. During normal operations, billeting organizations operate unaccompanied personnel housing and transient personnel quarters.

**BLSS.** A Base Level Self-sufficiency Set is composed of the spares and repair parts for use by units planned to operate in-place during employment.

**B Ration.** This designation describes subsistence components that are considered non-perishable. Typical components are canned vegetables and fruits; and canned, dehydrated meats, vegetables, and fruits. B ration components may require refrigeration after opening to retain their usefulness. B rations typically are packaged with a three year shelf life.

**BRAAT.** Base Recovery After Attack is a Civil Engineering program to reconstitute a base after enemy attack.

**CENTAF.** The US Air Force component of the unified Central Command.

**Contingency.** An uncertain future event sufficiently within the realm of possibility to warrant advance planning. Includes potential military operations, civilian and military emergencies, natural disaster relief, and major accidents.

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CONUS. The Continental United States territory includes the adjacent territorial water, located within the North American Continent between Canada and Mexico.

C Ration. Currently an unofficial designation for individual operational rations. The C ration was a canned, individual meal used by the US armed forces from World War II until the Vietnam War. The C ration was replaced by the Meal, Combat, Individual in 1958.

DCS. An organizational acronym for Deputy Chief of Staff.

EUCOM. The unified European Command.

Field Laundry. Laundry equipment used in the Harvest Bare and Harvest Eagle systems that provide hot water washing and drying of clothing for up to 550 personnel.

Food Service. In contingency situations, the food service organization is responsible to provide hot and operational meals in the field. In normal operations, food service organizations provide meals at dining halls, inflight kitchens, alert kitchens, and fire stations.

GLCM. The Ground Launched Cruise Missile weapon system. This system is mobile and self-sufficient.

Harvest Bare. This centrally CONUS stored equipment is air mobile to locations with austere living conditions. The Harvest Bare Services equipment contains food service kitchens and dining facilities, field laundries, billets and latrines, and mortuary holding facilities. TA 158 contains the authorization for Harvest Bare equipment.

Harvest Eagle. This consists of prepositioned support sets which includes field kitchens, WRM billets, and field laundries. TA's 158/929 contain a complete list of

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Harvest Eagle equipment.

Housekeeping Sets. These sets are prepositioned by overseas commands to augment existing facilities. Either fixed or field equipment may be prepositioned for use by deploying Prime RIBS teams. TA 929 contains the authorization for this equipment.

LEE. The acronym for the DCS, Logistics and Engineering, HQ USAF.

Laundry and Dry Cleaning. In contingency situations, laundry and Dry cleaning is provided through the field laundry. The laundry service is for personal uniforms, organizational clothing, and linen. Field laundries are used to provide this service. In normal operating conditions, the laundry and dry cleaning function is part of Services organization and provided through contract or by a stock funded laundry operation.

Linen Exchange. In contingency operations, the linen exchange is part of the field laundry. Typically, only uniforms, organizational clothing, and linen are exchanged by the field laundry.

MCI. The Meal, Combat, Individual is an individual operational ration. It consists of canned meats, vegetables, fruits, and desserts. This meal was replaced by the Meal, Ready-to-Eat in 1980.

MKT. The Mobile Kitchen Trailer is a kitchen mounted on a trailer. It uses the same equipment as the Harvest Eagle.

MRE. The Meal, Ready-to-Eat is an individual operational ration. It consists of meats, vegetables, fruits, and desserts in flexible pouches. The MRE replaced the MCI.

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**Mortuary Affairs.** In contingency situations, the mortuary affairs organization is responsible for graves registration, search and recovery of human remains, temporary preparation of human remains for storage and shipment, temporary interment of remains, and shipment of human remains. In normal operations, the mortuary affairs function handles individual, group, and mass casualty remains, performing the same functions as the wartime mission.

**Natick Labs.** The US Army Natick Research and Development Center, Natick, MA. Natick Labs is the organization responsible for the DOD Food Research, Development, and Testing Program. Natick Labs is also the single DOD manager for shelters.

**New Harvest Eagle.** The Harvest Eagle system was reconfigured with new shelters (TEMPER tents), new kitchen equipment, and improved utility systems. It will replace the existing Harvest Eagle as funds are available to purchase the new system.

**Operational Ration.** Subsistence used in contingency operations that constrain the use of A rations. An operational ration is packaged for long shelf life, reduced bulk, and the minimum weight to ease shipment and storage requirements.

**PRE.** The acronym used to identify the DCS, Engineering and Services prior to the term LEE.

**Prime BEEF.** The Prime Base Engineer Emergency Force program. Worldwide base Civil Engineer forces organized to provide trained military elements used in contingencies.

**Prime FARE.** The Prime Food and REadiness program. An air force, major command, and base level program that postures military forces to provide subsistence support at deployed locations during contingencies.

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Prime FARE forces will be under the command of the Prime RIBS commander where no AFCOMS lines of command exist.

**Prime RIBS.** The Prime Readiness in Base Services program. The Prime RIBS program is an Air Force, major command, base level mobility program that organizes and trains the Services forces for worldwide contingency support roles. It identifies and postures military authorizations and skills for the dual role of peacetime contingency and wartime services requirements. Civilian Services force may be used in disaster and combat Services support role if the military force is absent.

**Ration.** Subsistence for three meals for one person per day.

**RED HORSE.** The Rapid Engineering Deployable Heavy Operations Repair Squadrons of organized and trained Civil Engineers for heavy repair and erection of high priority projects and essential airbase facilities during contingency operations.

**Services.** In contingency operations, the Services organization is responsible for field food service, billeting, laundry, and mortuary affairs. During normal operations the Services functional area is responsible for food service, billeting, unaccompanied housing management, honor guards, furnishings management, consumer affairs, mortuary affairs, linen exchange, laundry and dry cleaning, and liaison with commissary and base exchange operations.

**Strategic Withhold.** Personnel required to perform combat Services support roles in the CONJS in support of strategic offensive and defensive missions. These personnel are usually military and are not available for deployment taskings.

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**T Ration.** This designation describes a system of subsistence which uses foods packaged in the tray pack as the major component. In addition to tray packed meats, vegetables, fruits, and desserts, the T ration includes dehydrated beverages and soups, bread and crackers, and spreads. The T ration is an operational ration which reduces the bulk and labor required by the B ration.

**Table of Allowance.** The official document that authorizes type and quantity of equipment and supplies by organization.

**TEMPER Tent.** The Tent, Extendable, Modular, PERSONNEL is a new shelter system using heavy, synthetic material over gable style frames. The tentage system offers many optional features such as liners, vestibules, power, ventilation, heating, and air conditioning.

**Theater Prime RIBS.** The Prime RIBS program outside the CONUS. These forces are considered deployed in place.

**Tray Pack.** A rectangular, multiserving, half-size steam table steel can. This relatively new package can hold fully prepared entrees such as sliced meats in gravy as well as vegetables, fruits, and desserts. The tray pack is the major component of the T ration.

**UNITREP.** The Unit Status and Identity REPORT system established in AFR 55-15. Services units are covered in Chapter 16. The goals of readiness reporting are to provide a timely and accurate assessment of a unit's readiness to accomplish its wartime mission, and to establish a data base of essential readiness management information.

**UTC.** The Unit Type Code is a five-character alphanumeric code that uniquely identifies each type unit of the Armed Forces. UTC's are used in operational planning

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to identify and differentiate Prime RIBS teams.

WMP. The War Mobilization Plan is the Air Force document to support the Joint Strategic Capabilities Plan and DOD mobilization planning directives. Volume 1, Annex S describes Services support. Volume 3 describes the Prime RIBS UTC's.

WRM. War Readiness Materiel required in addition to peacetime assets, to support the planned wartime activities reflected in the War and Mobilization Plan.

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